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Speculative Fiction by Black Women Authors: Information Organization System

1. Project description

Speculative Fiction by Black Women Authors is a book collection created mainly for the purpose of identifying and highlighting speculative works, which is narrative fiction that contains supernatural, fantastical, and/or futuristic elements, created by Black women and that feature Black women characters. To clarify, the authors and characters included in this collection are women from around the world of African descent – e.g., Afro-Latina, Afro-Caribbean, Black British, etc.

1.1. Collection and information objects

The collection, Speculative Fiction by Black Women Authors, comprises 1,832 books housed temporarily for the Spring semester in the University of Things Multicultural Center. After the semester, the books are integrated in to the university's library. Speculative Fiction by Black Women Authors assists users in their research, especially users in schools adjacent to the principles and concepts of the Center and brings awareness to visitors of the Multicultural Center of the works created by included authors. Housing the collection in the Multicultural Center ensures that students who benefit from it the most – students of gender studies and cultural studies (e.g. African American studies) – have immediate access.

The collection covers topics including Afrofuturism, Horror, Science Fiction, and Supernatural Fiction and covers values such as identity, war, colonization, telepathy, and home or a sense of place. Contributions from the Friends of the Library and promotion/tenure bookplate gifts add to the growth of the collection.

1.2. Users' demographics and knowledge

There are 415 users of the Speculative Fiction by Black Women Authors collection who are college-level, both undergraduate and graduate, between the ages of 17 and 40. The users are mostly from a middle socioeconomic class. The users are interested in gender studies, African American literature, and/or world literature. The user group is mainly women of color but includes other gender groups and those who are a part of the Caucasian (White) ethnic group. The users either live on campus or in residential areas that surround the university.

In addition to who the users are, their level of knowledge is important in better understanding the user group. There are four types of knowledge: general, domain, system, and information seeking.

General knowledge describes the knowledge acquired through experience, penchants, and level of intelligence. This user group has moderate general knowledge. While all users are college-level and may even have at least one advanced education degree, none of the users are considered a genius and do not have a wealth of experience due to age.

The domain knowledge, or level of knowledge of a particular subject area and its aspects, of the user group is mostly moderate. Many of the users are familiar some of the authors or works of Black women Speculative Fiction but have not spent any considerable amount of time researching, examining, or interpreting these works or their authors.

System knowledge is defined as the knowledge of a system, its components, and how to effectively navigate the system to meet the needs of the user. This user group has a moderate level of system knowledge due to their level of education and interaction with information systems during that time. The users are comfortable with many of the tasks necessary to interact with the system, such as reading a screen and navigating the system by moving and selecting items using a mouse.

Lastly, there is information-seeking knowledge, which is the knowledge of how users actively seek and comprehend the information needed. The level of knowledge by the user group of this type of knowledge is moderate because users are usually able to find the information they need and know where to look but are not at a level that allows the group to effectively and quickly obtain the information needed, as a reference librarian is trained to.

Based on what is known about the user group and their levels of the different types of knowledge, the user group requires a system that includes basic search features but can also be expanded to accommodate complex search queries using advance search vocabulary such as Boolean operators. The system should, of course, be useful to those with moderate domain knowledge – those who have enough knowledge of speculative fiction by Black women authors – but also users (outliers) that have a greater or lesser understanding than those of moderate level.

1.3. Users' problems and questions

The user group can visit the Multicultural Center for the purpose of obtaining books concerning Speculative Fiction by Black women authors. While the users may not have a specific purpose at the time of their visit, the books can be used for personal enrichment or in the context of coursework, used in research, literary analysis, or gender studies courses concerning gender and sexual identity in literature. Based on the users' needs, typical statements of need include:

User question 1: I need the books you have in the Patternist series. I think there are four or five.
Object attributes: series
Desired precision: moderate
Desired recall: moderate

User question 2: I want a novel involving vampire romance.
Object attributes: subject, genre
Desired precision: high
Desired recall: low

User question 3: What other books did the author of "Midnight Robber" write? I want to check out another.
Object attributes: title, author
Desired precision: moderate
Desired recall: low

User question 4: I would like to check out the three novellas that involve the character Binti.
Object attributes: literary form, character name
Desired precision: high
Desired recall: moderate

The object attributes mined from the user statements include series, subject, genre, title, literary form, and character name. An additional attribute that can be included is author.

2. Representation of information objects

2.1. Entity level

An entity is a non-physical representation of an object in a collection. As a part of a metadata scheme, it describes, in part or in whole, the metadata about an object. The entity level focuses on a portion of information that is used to gain a better understanding of an object. For the purposes of this collection, the entity level is one whole book. This entity level is the best option due to the needs of the user group. The users are not asking for parts or chapters of a book, they require and plan to read the entire book. While there are series in the collection, users may not always request an entire series but books within the series.

2.2. Metadata elements and semantics

Seven elements within the metadata scheme represent the books found in this collection. Please refer Appendix A. Metadata elements and semantics for detailed information about the individual elements and semantics or meaning. Also note, the aforementioned character name attribute is not used as an element of this metadata scheme. While useful, a character name is less useful than Subject or Genre.

Elements, in general, are useful and appropriate in the relationship of users and objects by assisting users in organizing and accessing objects in a collection. A user interacts with a database by entering values in to fields to search records for the available objects in a collection. Elements dictate what information is important to display in a record.

In this interaction, users carry out four tasks to obtain objects in a collection: find, identify, select, and obtain. These tasks were identified in the Functional Requirements for Bibliographic Records (FRBR) report and were used to assist in understanding how users use bibliographic records to do a number of things, including searching what is available in a library's holdings. The report itself was the summation of a study conducted to codify the relationship between the data found in the bibliographic records and what the users who access these records need from them. In this proposed structure, the tasks are mapped directly to the different attributes, or at this point elements, of an object.

To find or locate objects, books, in this collection, users employ elements to populate the database system with results from querying a combination of those elements. The find task is supported by Title and Author because both elements provide a somewhat specific method of entering a record search. Results from using one of the listed elements are specific to either records matching the title or records related to an Author. This task is also supported by Subject because, in contrast to the Title and Author elements, using Subject to find employs more general and descriptive terms to initiate a search.

In the next step, users identify or confirm from the query results that suit their information need. The identify task can also differentiate between multiple records with similar characteristics, such as using the Author element to identify the specific and appropriate Title that meets the user's information need. The element(s) not used during the find task can be used in the identifying process. The identify task is supported by Author, Subject and/or Title element because as previously stated, remaining elements from the initial search under the find task can be used to narrow down useful books from a broader search. The Series name element can be used for the identify task but that use can depend on if the user wanted to then select books within the Series name entered in the field.

After identifying suitable result entries, the user then selects or chooses the record(s) of the books that they have shown interest in reading. The select task is supported by Genre and Literary form because these elements can further drill down what a user may ultimately check out from the collection.

The last task, obtain, is where the user takes the objects selected from the search results and physically searches and selects from the collection. The obtain task is supported by the Classification element because it is used to locate the book or books that the user wants from the collection.

2.3. Record structure and specifications

There are seven fields that are a one-to-one translation of the metadata elements mentioned in Section 2.2. The Author field is a text field because many author names employ only letters of text. Filling in this field is required. If an Author is not listed, the cataloger enters Anonymous. Two entries are allowed in this field because most books are authored by, at most, two people. This field does not have a controlled vocabulary because authors are added as objects in the collection are added and a controlled vocabulary does not allow for new author names. Because there is no controlled vocabulary, there is no need for a drop-down list. The Author field is searchable based on the information in Section 2.2.

The Title field is a text field because titles are in English and require no special text or symbols. Filling in this field is required. If a Title is not listed, the cataloger enters Untitled. Two entries are allowed in this field to allow for a secondary title or subtitle. This field does not have a controlled vocabulary because titles vary and new objects do not have the same title as existing objects; existing objects do not share the same title. Because there is no controlled vocabulary, there is no need for a drop-down list. The Title field is searchable based on the information in Section 2.2.

The Series name field is a text field because there usually no numbers or other symbols in a series name. Filling in this field is required to group an individual record, an individual book, to other records that belong in a particular series. One entry is allowed in this field because an object does not usually belong to multiple series. This field does not have a controlled vocabulary because the vocabulary does not account for new objects that belong to a new series that does not already exist within the Series name field. Because there is no controlled vocabulary, there is no need for a drop-down list. The Series name field is not searchable based on the information in Section 2.2.

The Genre field is a text field because genre names are usually words. Filling in this field is required to better assist users in selection process by narrowing down objects. Up to seven entries are allowed in this field, which correspond to the seven general Genres within the Speculative Fiction umbrella: science fiction, fantasy, superhero fiction, science fantasy, horror, alternate history and supernatural fiction. Because of the specificity of the Genres, there is a controlled vocabulary that is selected using a drop-down list. The Genre field is searchable based on the information in Section 2.2.

The Literary form field is a text field since literary forms are either a single word or group of words. Filling in this field is not required. One entry is allowed in this field because an object does not usually belong to multiple forms. This field does not have a controlled vocabulary. The cataloger can, for example, either enter a general Literary form of poetry or a more specific form of epic. Because of this, there is not a drop-down list for this field. The Literary form field is searchable based on the information in Section 2.2.

The Subject field is a text field since subjects are either a single word or group of words. Filling in this field is required. Up to ten entries are allowed in this field. This field does not have a controlled vocabulary. The cataloger can enter appropriate subject terms that best correspond to the book. Because of this, there is not a drop-down list for this field. The Subject field is searchable based on the information in Section 2.2.

The Call number, formerly the Classification field, is a text field and while numbers are involved, this field is not solely numerical. Filling in this field is required in order to assist users in locating the object in the collection. One entry is allowed in this field because an object is only assigned to one specific Call number. The cataloger employs a classification system to enter in the information for this field. Because of this, there is not a drop-down list for this field. The Call number field is not searchable based on the information in Section 2.2.

In relation to controlled vocabulary, specifications are used to define the type and amount of data entered in a field to search a database. These specifications include field type, entry validation, content validation, and indexing. Specifications add a deeper level of detail to the controlled vocabulary in place for the available fields.

The field type specification determines the type of data that is stored in a field. Example of field types include text and numeric data. The text field type consists of letters, words, and numbers outside of those

used for calculations. Those specific numbers are stored as a numeric field type. This field type also includes percentages and other formulas. All of the field types for this particular database are text because that type allows for, as previously stated, letters, words, and numbers that aren't used in calculations.

The entry validation specification determines the amount of data that must be entered into a field by a cataloger. In order to submit or save a record, the cataloger must enter in the required amount of data. Fields can be set to accept unique data that is specific to one field and no other. Some of the fields of this database, like Title and Author, must be entered into the appropriate fields by the cataloger.

The content validation specification, as the name implies, is used by both database users and catalogers to ensure that the proper and required data are entered into a field. The content or data can be validated in different ways such as a drop-down or validation list or a mask. The Genre field in this database employs a drop-down list that catalogers and users use to choose the Genre of the book for a record or a Genre of book they are interested in, respectively. The drop-down list limits what can be entered for that field to the seven choices under the Genre.

Finally, the indexing specification determines how a field is searched in a database. Fields can be indexed in different ways. The most common ways of indexing are word and term or phrase indexing. For word indexing, every word in a field is treated as a separate value. No matter how many terms are entered in the field, each word is treated individually and for each word entered into the database by a user, the database attempts to match it with any of the separate values. For term or phrase indexing, two or more ordered words, which can be a part of a larger phrase or term, are searched. Unlike word indexing, the words searched are coupled and must match the whole phrase.

Please refer to Appendix B. Record structure and specifications for a detailed structure information.

2.4. Record content and input rules

To populate a record for an object in a collection, a cataloger must refer to a set of rules and guidelines that guarantees the accuracy and consistency of each record created. These input rules inform the cataloger as to what to enter in each appropriate field and how to locate the information that is to be entered. The input rules tell the cataloger how to format the information, such as capitalization and spelling, and what to do when a field of information cannot be found. Please refer to Appendix C. Record content and input rules for detailed information about the input rules and other content for each record field.

Chief source(s) of information hold the information that is to be entered in a record. The chief source(s) provide most, if not, all of the information about the object in its final form, in one centralized place. For this specific system, the chief source of information is the book itself – the front cover and the copyright page. An alternative to the book, the Internet Speculative Fiction Database or ISFDB, a database that catalogs information about literary works and authors under the speculative fiction umbrella, can be used to locate information not found on either the front cover or copyright page but is only referenced if the cataloger is unable to locate information on the chief source of information.

The chief source(s) of information are a part of another set of rules, content rules. Similar to input rules, content rules inform the cataloger of what is needed to create a record. In the case of content rules, the rules say what information is appropriate for the record and where that information can be found. In the case of this database, the Author of a book that is to be entered into the database can usually be found somewhere on the front cover of the book.

Please refer to Appendix G. Sample records for sample records detailing the proper application of the input rules.

3. Access and authority control

When creating or searching a record, possible variants there exist that can be entered to populate or locate records for objects. In order to provide catalogers a method of continuity in creating records and to allow the user to get the most from their search, authority control must be established. Authority control provides continuity to the data for a database, specifically to corral Author, Title, or Subject (Tags) variants into one standardized term. There are two forms of authority control that are usually employed to standardize those variants: subject authority control and name authority control.

Both subject authority and name authority provide lists, usually located on a separate database that contains standardized information. The difference is what information is on the list. For subject authority, there is a controlled vocabulary, which is a list of acceptable terms for database fields, of subject terms. The controlled vocabulary for name authority includes a list of the acceptable author name and the variants of those names. For catalogers, both authorities provide a centralized list that goes through little alteration that is not specific to one cataloger and reduces, if not, removes the variation between record data. For users, the results for their search of the database are more robust and easier to navigate because there is a source that has captured variants so the user does not have to do multiple searches.

For this database, the Notes field uses authority control in the form of controlled vocabulary. The list contains seven predefined Genres related to the books of this collection. The Author field relies on name authority file to standardize the possible variations of an Author's name, which is not as restrictive as a drop-down controlled vocabulary but provides a way to control the formatting or spelling of a name. The Tags field can also employ subject authority control to better organize the various subject terms catalogers enter when creating records. The best way to organize the various subjects for this database is to use a thesaurus, another form of controlled vocabulary. The thesaurus is specific to subject terms and shows how the terms or descriptors are related, equal, and/or tiered to each other.

4. Representation of information content

4.1. Subject access

Subject access describes the processes and systems by which information objects are accessed in a database. For each information object record in the database, there are applicable fields that contain information about the object that can be searched individually or combined. These searchable fields are known as access points. These points of access are put in place via natural language and/or authority control, specifically controlled vocabulary, indexing to assist the user in finding information to suit their needs. In the case of this database, subject access is provided by the Tags, Call # and Notes fields. The classification (Call #) scheme is used to organize the physical collection of objects in a particular order and is based on subject information. The classification assists in subject access by informing the user of the physical location of the information object(s) from their query result in order to physically access the object(s).

Information can be described not only by a physical description – size or shape – but also by the intellectual content, or what an object is about. This intellectual content is described or represented by a subject, otherwise known as a subject representation. Subject representation is critical because many users access and navigate a database using subjects. For this system, the terms from the Tags and Notes fields are subject representations for the information objects that, when entered by a user, can provide access to the objects in the database.

This following process details subject analysis which ultimately determines what terms are a subject representation for an object. The cataloger is responsible for perusing or familiarizing themselves with the book, mining the book for appropriate subject terms and extracting possible terms or concepts that are useful in cataloging applicable terms and for users in providing accurate results for their query. The cataloger can either directly apply those terms to the record or then translate the extracted terms into a controlled vocabulary that can be used throughout the system. The terms extracted are a subject representation of the information object.

For the extraction and translation steps, the cataloger ultimately employs natural language or a controlled vocabulary under subject authority control for the terms to be used to both populate a record and assist the user in querying and navigating the system. Natural language derives from the terms and concepts that exist in the information object and can vary from object to object. Subject authority control uses an acceptable or approved list of subject terms. While both methods of indexing begin with natural language, natural language does not fall under authority control but a controlled vocabulary does. When users query a system that uses natural language indexing, users employ terms from a larger pool of ordinary or natural terms or concepts. In a system that uses authority control, users are limited to predetermined vocabulary determined by the cataloger.

4.2. Thesaurus structure

Subject authority control imposes authority control on a field using an acceptable or approved list of subject terms. In this particular database, subject authority control is used on the Tags field. While the cataloger can choose terms that are appropriate as subjects, extraction by natural language, the terms must ultimately be standardized and authorized for use. Employing subject authority control is useful to catalogers because it organizes and links varying subjects that are equal or related and provides more standardization in records, which can help a user in solving their information need through searching the database. With this structure, a user does not have to search multiple terms to find all the available information on the topic of interest.

A common type of a subject authority file is a thesaurus. A thesaurus is a type of controlled vocabulary that is specific to subject terms and shows how the terms or descriptors are related, equal, and/or tiered to each other. A thesaurus uses a syndetic structure that has the ability to link or cross reference terms by their relationship to each other. This structure lends itself to allowing users to gather as much information as possible without separate, individual term searches because it can reference other terms that have some sort of relationship with the initial term searched.

In terms of relationships, the way in which a thesaurus is organized is based on sematic relationships, or relationships based on the meaning of words. The three kinds of semantic relationships that allow for cross reference are associative, equivalent, and hierarchical. Associative words are related but are not the same or alike. Equivalent words are identical or closely identical to one another. Hierarchical words are arranged in some order, in this case, broad or narrow.

Associative words are terms that should be cross referenced with other terms but do not follow a sub/super-ordinate order or are the same or alike. For example, the terms “war” and “peace” are associative. The two terms are associated because they antithetical or are in opposition to each other, so the terms are paired in this regard.

With equivalent words, there are multiple terms that can be used to express the same concept. In organizing equivalent words in a thesaurus a preferred or authorized term is chosen to best represent the concept and another term is chosen as a non-preferred or lead-in term that routes to the preferred term. Many preferred terms do not use natural language, so synonyms, near synonyms, and word variants are selected as a lead-in term due to more common or natural usage of the terms. An example would be the preferred term “feline” and the lead-in term “cat”. The term “cat” is Used For (UF) “feline.” While both terms are essentially the same, the term “cat” is more likely to be used to query a system.

Hierarchical words are organized around subordinate and superordinate or broader and narrower terms. The broader terms represent the whole or more general view of a concept, while the narrower terms represent parts or more specific aspects of the concept. For example, the terms “trickster,” “folklore,” and “Anansi” can be organized hierarchically as “trickster” being the authorized term with “folklore” being a broader term (BT) of “trickster,” meaning that the “trickster” term is a part or a more narrow aspect of “folklore.” “Anansi” is a narrower term (NT) of “trickster” as “Anansi” is a narrower part, specifically, “Anansi” is a type of “trickster.”

The words in these kinds of semantic relationships are linked by mandatory reciprocals, which are terms that are related to one another and that allow the cross reference of the words. The cross referencing allows for any one term from a group of related terms to be queried and receive similar results which reduces the work a user must do in order to satisfy their information need. For associative words, the mandatory reciprocal is Related Term (RT). The abbreviation RT is placed next to the associated or related term. The mandatory reciprocal for equivalent words is Use For (UF). The abbreviation UF is placed next to a term that is equal in meaning. For hierarchical words, the mandatory reciprocals are Broader Term (BT) and Narrower Term (NT). The abbreviation BT or NT is placed next to a term that is respectively either broader or narrower than the term in question. Mandatory reciprocals create connections between terms in a thesaurus. For example, the term “extraterrestrial being” can be connected to the term “alien,” as they are different terms describing the same thing. The term “alien” could be used for (UF) “extraterrestrial being.” Both terms are related to (RT) “Unidentified Flying Object (UFO).”

Other aspects of a thesaurus are the domain and scope. The domain is the global theme of thesaurus and the scope is the threshold or the extent of the domain. For this thesaurus, the domain and scope is speculative fiction by Black women. There is also the specificity, or how exact are the index terms in representing the subject of an object. The specificity of this thesaurus is moderate; there are subjects that are both abstract – e.g. “love” and “friendship” and more concrete, such as “vampires” and “technology.” This level of specificity can be helpful to users who are looking for one specific book in the database but also allow for those who are unfamiliar with the books in the database to find many options.

In addition to specificity, there is exhaustivity, or how comprehensive indexing is in representing all of the subjects of an object. There are levels to how comprehensive indexing can be with depth indexing being more detailed in its coverage – main and subtopics are both included and summarization that only covers a central topic. For this thesaurus, the indexer would lean more toward depth indexing so that all topics and subtopics are covered. This level of indexing is useful in providing a variety of options for the user and can result in retrieving more information to meet their needs. With summarization, some users may not be satisfied with the information that is retrieved since all objects in the database may not fit in the central topic identified by summarization.

Please refer to Appendix D: Sample thesaurus for a detailed example of a thesaurus and mandatory reciprocals.

4.3. Classification scheme

Classification is the process of coding and ordering objects based or common characteristics. The purpose of a classification scheme is to practically organize these objects in a space. Instead of going into a library or information center and walking around until an object(s) of interest is found, a classification scheme helps users find what is available based on subject access and provides an actual location for an object within the information center and its collection.

There are two major methods to classification: hierarchical and faceted. In the hierarchical method, objects are organized and prearranged in classes and subclasses based on subject. As with other hierarchical structures, the subjects and its relationships are subdivided from general to specific. The hierarchical method is usually best for complex and exhaustive collections. A downside to the hierarchical method is that a completely hierarchical classification system is fairly unyielding, though classes can be added to an existing hierarchy with great consideration.

For the Faceted method, facets, or the types of classes, are predetermined but the classes and subclasses are not. This method uses cohesion to create subjects, which employs a linking of words within an object that groups them together and assigns meaning. Unlike the hierarchical method, the faceted method is more flexible and not bound to defined or prearranged concepts. Unfortunately, this type of method is complicated due to the classes and subclasses not being predefined.

This collection uses the faceted method and uses the facets Genre, Author, and Title. This scheme is used to assist users in navigating or narrowing results of their queries. As identified in Section 1.3, the precision of a user's need is fairly high and the Genre facet is an appropriate point of access. The Author and Title facets are more familiar and comfortable for users, especially when both are organized alphabetically. In the case of multiple objects that share the same classification code, a unique identifier is used to make each record distinctive. A numerical code that derives from the object's record is affixed to the end of the code to differentiate those items.

The following example code is derived from the book *Everfair*. The Genre of this book is Alternative history, so the code for the first facet is Alh. The author's last name is Shawl, so the code for this second facet is Sha. For the final facet Title, the code is Eve. Together, the complete classification code for this specific object is Alh.Sha.Eve. In the case of two or more objects with the same classification, the duplicate object's record number is affixed to the end of the code, changing the aforementioned code to Alh.Sha.Eve.003, for example.

Please refer to Appendix E. Classification scheme for detailed information about the classification scheme of this collection.

5. Name authority control

Name authority control is the process of selecting and standardizing name headings for a record. Acceptable author or personal, corporate, and geographic names and their variants are added to a centralized list. For catalogers and other technical users, name authority control is beneficial in that it reduces, if not, completely removes the variation between record data. For users, the results for their search of the database are more robust and easier to navigate because there is a source that has captured variants so the user does not have to do multiple searches.

For this system, the Authors field is under name authority control. This field needs authority control to capture the variants that exist for an author's personal name. Many of the authors included in this collection have gone by various names when publishing, so adding this type of control reduces confusion and provides the most comprehensive results of a user's query. In addition, users who are unfamiliar with an author's popular or widely accepted name but know of a variant, the user is still able to query the system and receive complete results due to the name entered being cross referenced with the authorized name and other variants.

The name authority file collects the name authority records, which includes the authorized and variant names, for a collection. The authority file is located in separate database linked to the main database file and can quickly be referenced, via a system prompt, when a user queries the system with a variant name instead of an authorized name. The file can also exist as a physical document. As stated, the name authority file includes all of the name authority records created for a system. The records include fields that hold the authorized name, its variants, and the source(s) for finding this information. Technical users must update and/or populate the authority file with an authority record with the most recent name information in order to ensure that the system properly references all known names.

Please refer to Appendix F. Name authority file for detailed information about the name authority control input rules and sample records for this collection.

6. System evaluation and development

6.1. SWOT

In order to best understand the state or status of an organization – its successes, failures, and areas for improvement – those involved must analyze and discuss the strengths, weaknesses, opportunities, and threats of either a project or the organization as a whole. This is known as a SWOT analysis and is

accomplished by identifying and examining the internal and external aspects that affect the goals and plans of an organization or for a particular project.

For this system, the SWOT analysis is useful in analyzing and understanding how well or unwell the system works in regards to the end user's needs. The analysis can show how closely the system realizes the goals set during its creation and provide the tools and information necessary to make changes moving forward. Pinpointing these aspects can give the system's creators and technical users a clearer picture of how to best create or alter a system that gives access to information objects.

For the SWOT, there are strengths that apply to the collection and the system that set this system apart from other systems. The some of the objects in this collection are familiar to many of the users of the system but the collection, as a whole, is unique and specific. Given the location of the collection and information need of identified users, the multicultural center and university library overall offers a niche collection. Because this collection is unique, a particular knowledge base must exist in the technical users when translating the objects of the collection into records for the system. While the system uses a controlled vocabulary in organizing its subjects, it is important for the technical users to have domain knowledge to a) select the best terms in an object using natural language and b) choosing the best representations in translating the natural language terms into controlled vocabulary.

Unfortunately, the actual system is not as flexible as originally designed. For the technical user, some of the field names and mechanisms did not translate well or at all from the identified attributes and this makes populating and understanding how users receive or navigate the system difficult. Initially, the Genre attribute had been created as a drop-down list of terms that belong to a controlled vocabulary. Once the system had been created, it was determined that it was unable to facilitate a drop-down list and the Genre had to be manually entered into the Notes field. Also, the technical user has to activate certain features for end users to optimally query and navigate the system, reducing the flexibility and customization a user can employ when using the system. On the public-facing side, the end user cannot filter only search for objects and as mentioned, if certain aspects are not made available by the technical user – for example, the tags are not made available to search – the end user will not receive any results pertaining to the attribute queried.

An opportunity that could increase collection use and contribute to the popularity of both the collection and system – and could provide more funds for both – is in expanding the collection to include more literary works of Black women in other genres. This expansion goes back to one of the goals of the original collection in assisting users in their research, especially users in schools adjacent to the principles and concepts of the Center that houses the collection.

Finally, a threat to the collection and possibly the system is the decreased use of the collection once it is incorporated into the university's larger library collection. Users may be confused with the placement or may believe that the objects are no longer available. If the system components are ultimately folded into a larger system, users may not want to work as hard to find objects that suit their information need, especially compared to only searching for objects in the specific collection.

SWOT Analysis Chart:

Strengths	**Weaknesses**
The specificity of the collection and the technical user's domain knowledge displayed in the system.	How the system represents some of the attributes, e.g. Genre attribute becoming the Notes field.
Opportunities	**Threats**
Expanding the collection in support of learning about Black women literary figures – adding another genre.	Collection not widely used once collection is incorporated into larger library collection.

Similar to SWOT analysis, political, economic, social, and technological (PEST) aspects must be identified and understood in measuring their effect on a project or organization. A PEST analysis is a wider picture of the external and sometimes uncontrollable forces that can affect projects, systems, or organizations. Specific to this system, the information collected from a PEST analysis can determine, for example, how and how often the system is used and if a system or the collection that employs the system can be maintained financially, in other words, the cost of the parts of the system and the cost of acquiring objects for the collection.

While the funding issues the government is facing isn't specific to the university's library, it affects where and how the funds given to the university are allocated throughout. This bleeds into the economic aspect; whatever funds are allocated specifically to the acquisition of resources, the majority of the funds will go to electronic resources – the databases, eJournals, and eBooks – and what remains from that will then be used to require all the physical objects for the library. Part of the collection is funded or expanded by the Friends of the Library and promotion/tenure bookplate gifts but that process is slower and the gifts are purchased with funds allocated to the library.

A positive point in this analysis is the social aspect, which the collection affirms. With the popularity and success of the *Black Panther* movie and the strides Black people, as a whole, have made lately, it is important to explore the complex and multifaced stories that feature Black people, especially those of women and the LGBTQ+ community. Many of the books in the collection feature women as main characters, some of which are heroines.

The most important aspect of the PEST analysis, which focuses on the system, is technology. At present, this system is limited in what it can provide for the end user. Ideally, the system for this collection would have the guards and files that currently exist in the present system but give the user more space to query or filter results. Users have to be more precise in the current system in their query in order to find all of the objects that will meet their information need(s). Additionally, a system that pushes the simple results further by providing suggestions not only for subjects and other terms to optimize their search but additional results that fall in line with the user's original query.

PEST Analysis Chart:

Political	Economic
Government funding issues reduce budget to better fund universities state-wide.	Library material budget used mostly for electronic resources, with the rest for all physical resources.
Social	**Technological**
Interest and pride in Black culture and history coming to the forefront.	More responsive and intuitive organizational and retrieval systems are available.

Both analyses are great indicators how well the current version of the system provides access to information objects for a user's information need and there are points identified that veer away from the original system concept. Overall, the system was able to ingest the important attributes as fields but there are design issues that produce a less dynamic system for users to query and navigate. Many of the users will access the system with specific information needs and requests and can find what they are looking for but will have to expend more effort in this system. As is the purpose of both the SWOT and PEST analyses, any issues or negatives will be examined and worked into the system and collection, if possible.

6.2. Change and development

After conducting both the SWOT and PEST analyses, there is some interplay between both aspects of the analyses. Compared to the current system, there are more responsive and intuitive information organization and retrieval systems available. If this collection could employ a more responsive system for both technical and end users, the weakness of the misinterpretation of the identified attributes would not be an issue. There may be some customization done to rename standard or preset field names or a method that makes the translation clearer to end users. Unfortunately, the funding issues may affect the acquisition or maintenance of a more sophisticated system. An alternative could be an open-source system that has the skeleton of a functional system but can be adjusted or populated in the way the suits both the technical user and the end user. Unfortunately, additional training on both ends may be necessary in order to optimally use the system but that additional training would probably be necessary for the more advanced and more expensive system.

In looking at the threat, economics and opportunity of the collection and system, there is a possibility to reduce the dependence on the amount of funds needed to expand the physical collection, grow the collection to incorporate works by Black women in other genres and keep it housed in the Multicultural Center, instead of folding it into the rest of the university's library. The library could partner with some of the departments that work closely with the Center – African American studies and Gender Studies, for example – and/or the Center itself in expanding the collection and giving it a permanent home. A grant or fund that is specific to the collection and its system could be created to offset the costs that would solely rest with the library.

7. Project summary

I chose to organize this collection because a) I enjoy and am familiar with the objects, the books, the make up this collection and b) I thought it would be an interesting challenge to organize these books in a way that is completely different from their actual system or physical organization – classified as general fiction or separated by their specific genres. This project, overall, gave me the unique perspective of wearing both hats of the technical user and end user on a system and collection that I had some interest in. Many technical users do not get to choose what kinds of collections or projects they would like to work on.

My system is not too different from existing systems in what they provide: access to representations of information objects that will ultimately lead the to the actual object, whether electronic or physical, in a collection. My system, however, is very limited in how it provides that access. As I stated in the assignment, the technical user must ensure that every option within the system is available to the end user so that they can efficiently search the system. There is not an option to filter results using identified attributes, users can only search with them. Ideally, the end user would have more room to query and adjust results accordingly to best suit their information need(s). I would call for a more intuitive system that could also further results that they could identify as useful, in addition to results from their original query, and possibly obtain.

Luckily, the representing the objects in the system was not too difficult due to the contents of the collection not being too complex. While some of the labeling of the fields that would represent attributes didn't translate to the system well, there was a place to put that information and I did not have to worry about fitting or even cramming information into fields that did not really fit it. It would be nice if Libib allowed for the addition or customization of the fields for the record but I'm sure if that was to happen, that would be something users would have to pay or pay more for.

Knowing what I know now in going through this process, I would want to design a system that fell at a happy medium; it would be much more than the bare bones search and retrieve but it would not be so complex that a detailed manual or an information professional would need to be consulted. Technical users would be able to populate and adjust the system in an organized and authorized way and not have to worry about subjective entries but the information is flexible enough for the user to retrieve the information needed without needing strict rules. The end user will not feel lost or confused going through the system and the system can fall in line with how the user is looking for information: what attributes are they interested in, what format(s) are of interest, etc. This type of system may currently exist or very close to existing but I would hope that it would be open-source to reduce costs and promote customization.

Appendix A. Metadata elements and semantics

No.	Element name	Semantics
1	Author	The writer or writers of the object
2	Title	The name of the object
3	Series name	The name for a set of related objects
4	Genre	The style or category of the object
5	Literary form	The construction or organization of the object
6	Subject	An area or areas of interest found in the object
7	Classification	A notational system that organizes objects based on subject

Appendix B. Record structure and specifications

1. Record structure specifications

No.	Field name	Field type	Searchable	Required	Number of allowed entries	Controlled Vocabulary?	Drop Down List?
1	Author	Text	Y	Y	2	N	N
2	Title	Text	Y	Y	2	N	N
3	Series name	Text	Y	Y	1	N	N
4	Genre	Text	Y	Y	7	Y	Y
5	Literary form	Text	Y	N	1	N	N
6	Subject	Text	Y	Y	10	N	N
7	Call number	Text	N	Y	1	N	N

2. Field comparison

No.	Desired Field	Libib Field	Notes
1	Author	Authors	
2	Title	Title	
3	Series name	Group	Group field in Libib accepts Series and groups objects within series.
4	Genre	Notes	Genre must be manually entered from accepted list of Genres.
5	Literary form	Description	Chosen Literary form must be entered in Description field.
6	Subject	Tags	Subjects must be limited to one or two-word terms and separated by commas.
7	Call number	Call #	

Appendix C. Record content and input rules

Field #: 1
Field Name: Authors
Semantics: The person, persons, or group responsible for the creation and/or revision of the object.
Chief Source of Information: 1. Front cover of book, 2. Copyright page of book
Input Rules: This field is required. No more than two entries are allowed. Locate the author or authors name on the front cover and enter the name using the same spelling and formatting displayed on the front cover. The first letter of the names provided are capitalized unless stylized in a different format. Professional designations are to be included, if available. Middle or other initials are not written out, only enter the initial or initials followed by a period, unless initials are written without periods. For multiple authors, list authors in the order displayed on the front cover. Multiple authors are separated by commas. Last names with spaces must be enclosed in quotes. Names that contain letters with special characters or symbols are entered with exact characters or symbols, not regular letters. Enter author in the Authors field.
Example: Octavia E. Butler

Field #: 2
Field Name: Title
Semantics: A name that specifically references to the content of the object.
Chief Source of Information: 1. Front cover of book, 2. Copyright page of book
Input Rules: This field is required. No more than two entries are allowed. Locate title of the book on the front cover and enter the title using the same spelling and formatting displayed on the front cover. Subtitles, if available, must be entered after the main title using a colon followed by a space. If a subtitle is formatted on the front cover, use the format displayed. Capitalize each word in the sentence with the exception of articles, conjunctions, and the preposition in, unless at the beginning of the Title or stylized in different cases. Enter title in Title field.
Example: Brown Girl in the Ring

Field #: 3
Field Name: Group
Semantics: A related set of objects, also known as a series.
Chief Source of Information: 1. Front cover of book, 2. Copyright page of book, 3. ISFDB
Input Rules: This field is required. Only one entry is allowed. Locate group name of the book on the front cover and enter the name using the same spelling and formatting displayed on the front cover. If the group is not listed on the front cover, refer to the copyright page of the book. If the group is not listed in either location, refer to the ISFDB by searching for a title of a book that belongs to the group. The group name is followed by the word series in lower case, unless series is already included after the name. Enter the group name in the Group field.
Example: Patternist series

Field #: 4
Field Name: Notes
Semantics:
Genre: Literary category in which an object belongs.
Chief Source of Information: 1. Copyright page of book, 2. ISFDB
Input Rules: This field is required and one of the following seven genres, that are a part of a controlled vocabulary, is entered in to the Notes field: science fiction, fantasy, superhero fiction, science fantasy, horror, alternate history or supernatural fiction. Locate genre of the book on the copyright page, verify that it matches one of the genres from the vocabulary and enter the genre using the same spelling and formatting displayed. If there is not a genre listed or does not match one of the genres in the vocabulary, refer to the ISFDB website. Search for the title, locate the genre and enter the genre in the Notes field. The first letter of the word or phrase must be capitalized. Enter the genre in the Notes field.
Example: Science Fiction

Field #: 5

Field Name: Description
Semantics:
Literary form: The organization or arrangement of a literary object.
Chief Source of Information: 1. Copyright page of book, 2. ISFDB
Input Rules: This field is not required. If input is desired, only one entry is allowed. Locate literary form of the book on the copyright page and enter it using the same spelling and formatting displayed. If there is not a literary form listed, refer to the ISFDB website. Search for the title, locate the literary form and enter the form in the Description field. The first letter of the word or phrase must be capitalized. Enter the form in the Description field.
Example: Novel

Field #: 6
Field Name: Tags
Semantics:
Subject: An area or areas of interest related to the object.
Chief Source of Information: 1. Cataloger, 2. ISFDB
Input Rules: This field is required. Up to ten entries are allowed. The cataloger enters subject terms that are appropriate and relevant to the book. If the cataloger is unsure of what subject terms are appropriate, the ISFDB can be consulted. Search for the title, locate the subject terms listed for the title and either enter the terms displayed or enter terms that are similar to the terms displayed. Subject terms are lower case unless terms are proper nouns. Subjects are separated by a comma and space. Enter the subjects in the Tags field.
Example: war, loyalty, Afrofuturism

Field #: 7
Field Name: Call #
Semantics: A notational system that organizes objects based on subject.
Chief Source of Information: Please refer to Appendix E. Classification scheme
Input Rules: This field is required. Only one entry is allowed. The sole source of information for this field is the Black Women Authors (BWA) classification scheme. Enter the call number in the Call # field.
Example: Please see Appendix E.

Appendix D. Sample thesaurus

Afterlife
    USE Future life
Aliens (Extraterrestrial beings)
    USE Extraterrestrial beings
Animals, Mythical
    NT Vampires
Clans
    BT Families
    RT Kinship
    RT Tribes

Conflict, Armed
    USE War
Death
    NT Mortality
Deities
    USE Gods
Divine beings
    USE Gods
Dreaming
    USE Dreams
Dreams
    UF Dreaming
    BT Visions
Dystopias
    RT Utopias
Extraterrestrial beings
    UF Aliens (Extraterrestrial beings)
    BT Life on other planets
Extraterrestrial life
    USE Life on other planets
Extraterrestrials
    USE Extraterrestrial beings
Fables
    BT Legends
Families
    UF Family
    RT Kinship
    NT Tribes
Family
    USE Families
Folklore
    NT Legends
    NT Superstition
    NT Traditional medicine
Female gods
    USE Goddesses
Future life
    UF Afterlife
    RT Immortality
Goddesses
    UF Female gods
    BT Gods
Gods
    UF Deities
    UF Divine beings
    RT Mythology
Healers
    BT Healing
        RT Immortality
Healing
    NT Healers
Ideal states
    USE Utopias
Identity (Psychology)
    UF Personal identity
    BT Self
    RT Individuality
Immortalism
    RT Immortality
Immortality
    RT Immortalism
Individuality
    RT Identity (Psychology)
    RT Self
Interstellar communication
    BT Life on other planets
Kinship
    RT Clans
    RT Families
Legends
    BT Folklore
    NT Fables
Lesbian vampires
    UF Vampire lesbians
    BT Vampires
Life on other planets
    UF Extraterrestrial life
    NT Extraterrestrial beings
    NT Interstellar communication
Mortality
    BT Death
Myth
    BT Gods
    RT Mythology
Mythology
    UF Myths
    BT Legends
    RT Folklore
    RT Gods
    RT Myth
Myths
    USE Mythology
Peace
    UF Peaceful coexistence
    RT War
Peaceful coexistence
    USE Peace

Personal identity
USE Identity (Psychology)
USE Self
Self
UF Personal identity
NT Identity (Psychology)
Superstition
UF Traditions
BT Folklore
Traditions
USE Folklore
USE Legends
USE Superstition
Tribes
BT Families
RT Clans
Utopias
UF Ideal states
RT Dystopias
Vampires
BT Animals, Mythical
BT Superstition
NT Lesbian vampires
Vampire lesbians
USE Lesbian vampires
Visions
NT Dreams
War
UF Conflict, Armed (War)
UF Wars
RT Peace

Key:

BT = Broader Term
NT = Narrower Term
RT = Related Term
UF = Use For
USE = Use

Appendix E. Classification scheme

1. Scheme

Genre	Author	Title
Science fiction – **Scf**	See Notation Rules	See Notation Rules
Fantasy – **Fan**		
Superhero fiction – **Shf**		
Science Fantasy – **Sfa**		
Horror – **Hor**		
Alternative history – **Alh**		
Supernatural fiction – **Snf**		

2. Notation rules

Facet name: Genre
Chief source of information: Taken from the Notes field (formerly Genre) in the bibliographic record. The field information comes from a controlled vocabulary of the Genre types.
Notation rules: Abbreviated form of the Genre type. See the scheme table above. End with a period.

Facet name: Author
Chief source of information: Taken from the Authors field in the bibliographic record.
Notation rules: Use the first three letters of the author's last name or the first three letters of the author's first name if the author goes by a mononym. The first letter must be capitalized. End with a period. If there are multiple authors, use first author only. If there is no author, omit this facet.

Facet name: Title
Chief source of information: Taken from the Title field in the bibliographic record.
Notation rules: Use the first three letters of the first, if not only, word of the title. The first letter must be capitalized. Do not punctuate end.

3. Rule for unique number

For the unique number, append the object's record number to the end of the Title facet, preceded by a period.

4. Example

Title: *Everfair*
Author: Nisi Shawl
Genre: Alternative history
Record number: 003

Classification: Alh.Sha.Eve.003

Appendix F. Name authority file

1. Record content and input rules

Field #: 1
Field name: AuthorizedName
Semantics: The only author name approved for use in a record.
Input rules: Use most recent and verified form of name. Normal order (First name, Middle initial, Last name) is used for the order in which the author's name is entered. Do not include nicknames or pseudonyms; those names are to be entered in the VariantNames field. If an author's name has changed, e.g. name change from marriage, use new version of author's name and enter their former name in to the VariantNames field. Names are entered in normal capitalization, unless the name is stylized in a different manner. For names that are initials, either first or last, the initials are followed by a period; blank space should not be entered between the period and subsequent letter. For Titles are not included but honors or credentials can be used and entered at the end of the author's name.
Example: Alaya Dawn Johnson

Field #: 2
Field name: VariantNames
Semantics: All known variations, alternative spellings, and pseudonyms of an author's name used by the author in publication.
Input rules: Variants can include acronyms, pseudonyms, official names, and religious names. Spell name exactly as found, with normal capitalization, unless the variant is stylized in a different manner and in normal order. For names that are initials, either first or last, the initials are followed by a period; blank space should not be entered between the period and subsequent letter. Enter new variants as they are found.
Example: Alaya Johnson

Field #: 3
Field name: SourcesUsed
Semantics: Resource(s) referenced in verifying an authorized name.
Input rules: Enter the full title of the resource(s), a comma, and the year of access.
Example: Library of Congress Name Authority File, 2018

2. Sample records

AuthorizedName: Nnedi Okorafor
VariantNames:
Nnedi Okorafor-Mbachu
Nnedimma Nkemdili Okorafor
SourcesUsed: Library of Congress Name Authority File, 2018

AuthorizedName: Tananarive Due
VariantNames:
SourcesUsed: Library of Congress Name Authority File, 2018

AuthorizedName: Alice Walker
VariantNames:
A. (Alice) Walker
Alice Walker Leventhal
SourcesUsed: Library of Congress Name Authority File, 2018

AuthorizedName: Nalo Hopkinson
VariantNames:
SourcesUsed: Library of Congress Name Authority File, 2018

AuthorizedName: Nisi Shawl
VariantNames:
SourcesUsed: Library of Congress Name Authority File, 2018

AuthorizedName: Jewelle Gomez
VariantNames:
SourcesUsed: Library of Congress Name Authority File, 2018

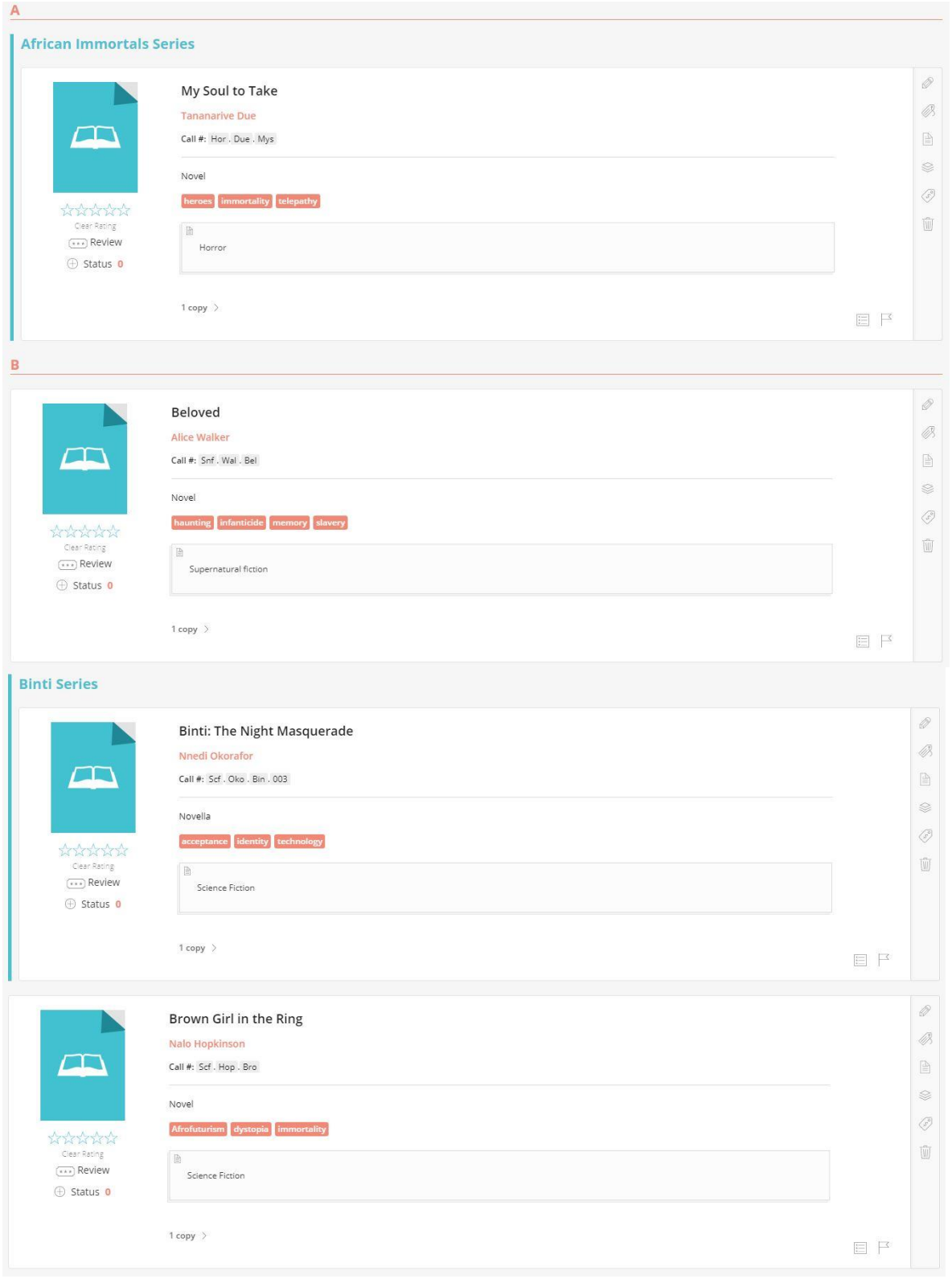
AuthorizedName: N.K. Jemisin
VariantNames: Nora K. Jemisin
SourcesUsed: Library of Congress Name Authority File, 2018

AuthorizedName: Pauline E. Hopkins
VariantNames: Pauline Elizabeth Hopkins
SourcesUsed: Library of Congress Name Authority File, 2018

AuthorizedName: Octavia E. Butler
VariantNames:
SourcesUsed: Library of Congress Name Authority File, 2018

AuthorizedName: L.A. Banks
VariantNames:
Leslie Ann Peterson Esdaile
Leslie Esdaile
Leslie A.P. Esdaile
Leslie E. Banks
Leslie Esdaile Banks
SourcesUsed: Library of Congress Name Authority File, 2018

Appendix G. Sample records



E

Clear Rating
Review
Status 0

Everfair

Nisi Shawl

Call #: Alh . Sha . Eve

Novel

Africa colonization utopia

Alternative history

1 copy

G

Clear Rating
Review
Status 0

Gilda Stories, The

Jewelle Gomez

Call #: Snf . Gom . Gil

Novel

immortality sexuality vampires

Supernatural Fiction

1 copy

K

Clear Rating
Review
Status 0

Killing Moon, The

N.K. Jemisin

Call #: Fan . Jem . Kil

Novel

dreams peace

Fantasy

1 copy

O

Clear Rating
Review
Status 0

Of One Blood

Pauline Hopkins

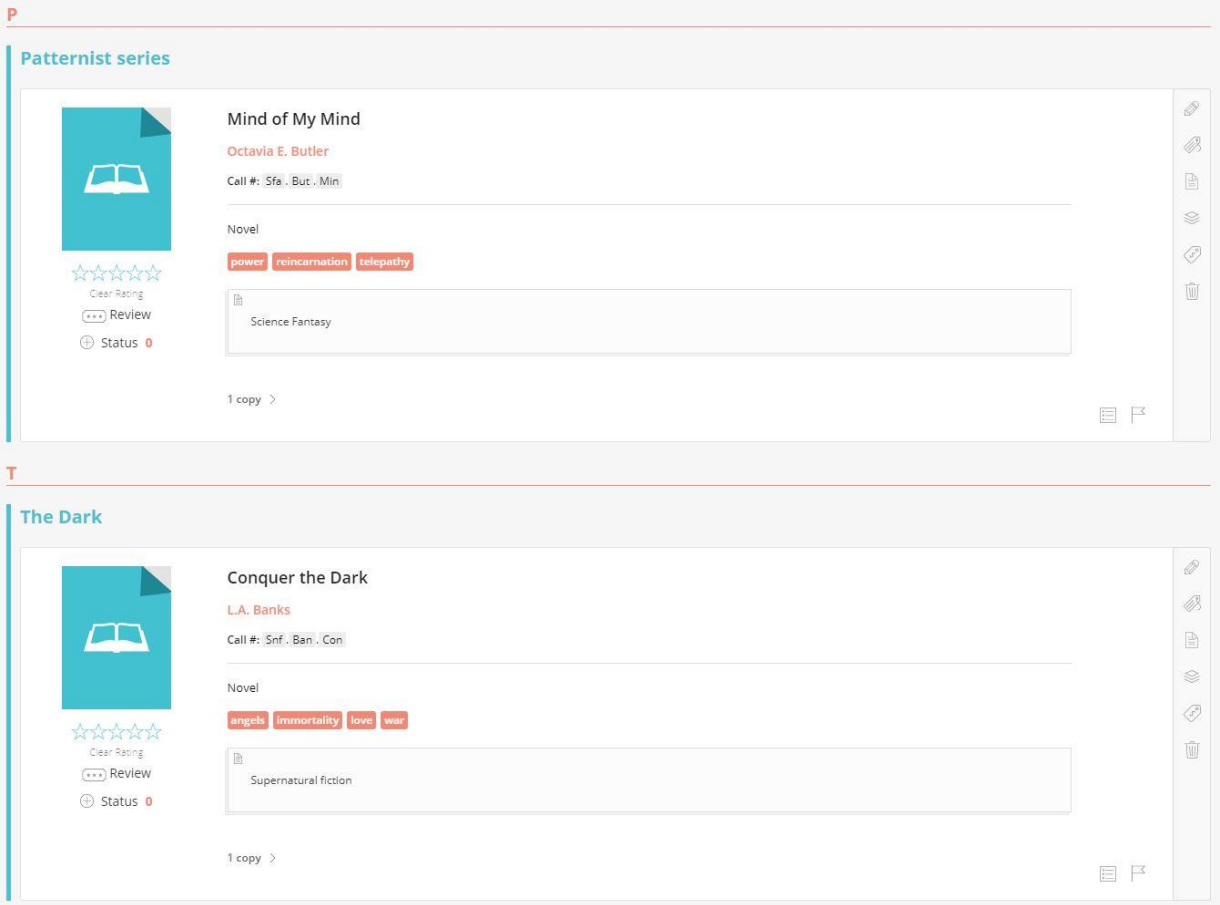
Call #: Alh . Hop . Ofo

Novel

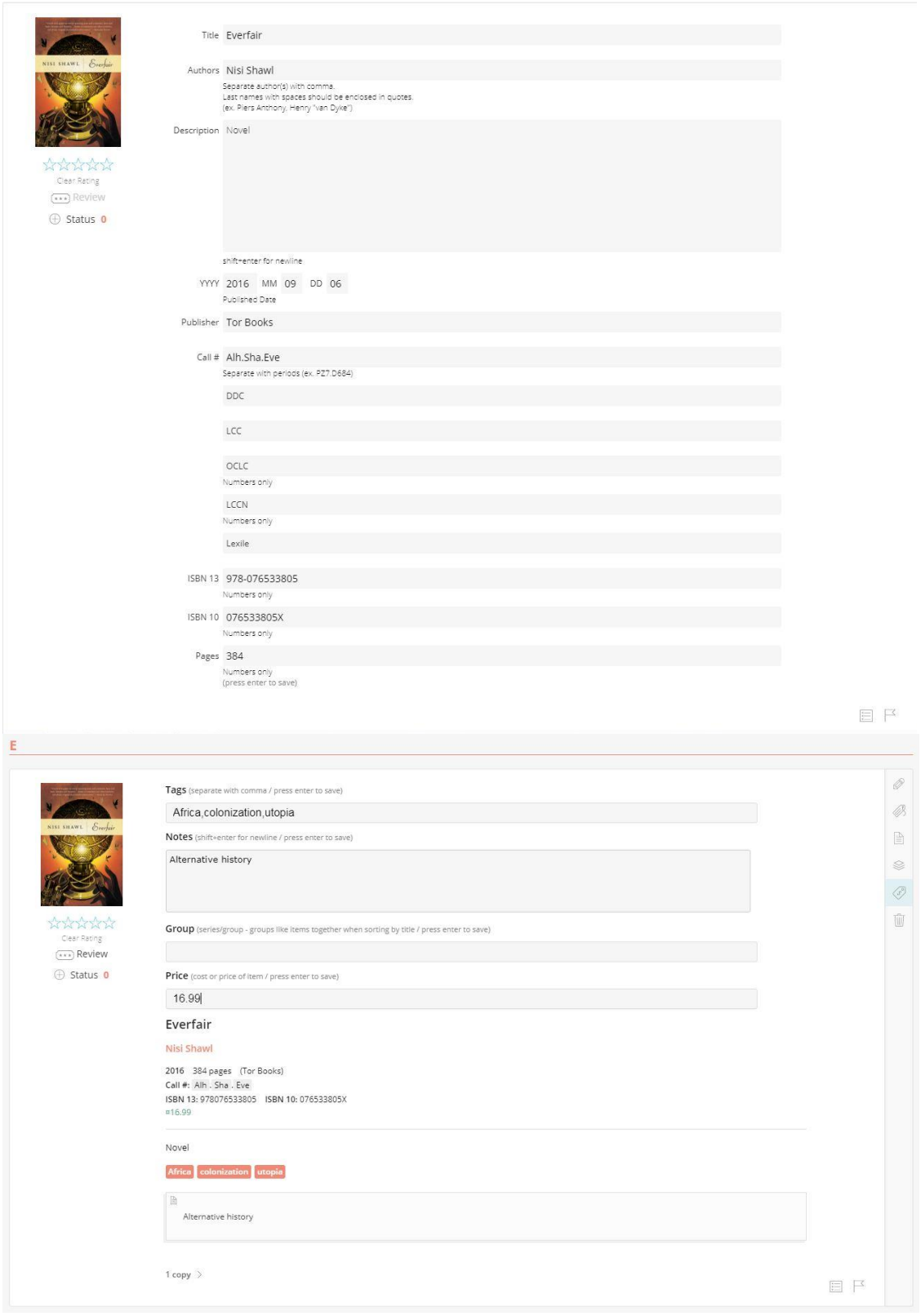
acceptance identity relationships

Alternative history

1 copy



1 Completed object records



2 Full example record (edit mode)