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| **Use Case Name:** | #1 Add a new Book |
| **Description:** | |
| The Worker adds a Book record into the Book folder. | |
| **Stakeholders:** | |
| Worker, Clerk | |
| **Preconditions:** | |
| 1. Worker is authorized to add a Book. 2. Worker has a Book to add. | |
| **Workflow:** | |
| 1. The Worker provides their BannerId and password to the Clerk. 2. The Clerk retrieves the Worker record from the Worker folder using the BannerId provided in Step 1. 3. The Clerk validates the password provided in Step 1 with the password on the Worker record retrieved in Step 2. 4. The Clerk asks the Worker what they would like to do. 5. The Worker informs the Clerk that they wish to add a new Book. 6. The Clerk asks the Worker to provide all the required Book information including Barcode, Title, all Authors, Publisher, YearOfPublication, ISBN, Condition, Suggested Price. 7. The Worker provides the Book information that was requested in Step 6 to the Clerk. 8. The Clerk validates the Book information provided in Step 7. 9. The Clerk fails to retrieve a Book record from the Book Folder using the Barcode provided in Step 7. 10. The Clerk creates a new Book record containing the information provided in Step 7. 11. The Clerk extracts the BookBarCodePrefix by taking the first two characters from the Barcode provided in Step 7. 12. The Clerk retrieves the BookBarcodePrefix record with the BookBarcodePrefix extracted in Step 11 from the BookBarcodePrefix folder. 13. The Clerk retrieves the Discipline from the BookBarcodePrefix record retrieved in Step 12. 14. The Clerk sets the Discipline field of the new Book record to the Discipline extracted in Step 13. 15. The Clerk sets the “Status” field of the Book record created in Step 10 to be “Active”. 16. The Clerk files the Book record in the Book folder. 17. The Clerk informs the Worker that the Book has been added. | |
| **Results:** | |
| A new Book has been added. | |
| **Alternates:** | |
| 1. The Worker provides an incorrect password for the provided BannerId in Step 1. 2. The BookBarcodePrefix extracted in Step 10 was not found in the BookBarcodePrefix folder in Step 11. 3. The Book Barcode already exists in the Book folder in Step 9. | |
| **Entities Involved:** | |
| Worker, Clerk, Book, Book Folder, BookBarcodePrefix folder, Worker folder | |

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| **Use Case Name:** | #2 Modify an existing Book’s details |
| **Description:** | |
| The Worker modifies an existing Book record within the Book folder. | |
| **Stakeholders:** | |
| Worker, Clerk, StudentBorrower | |
| **Preconditions:** | |
| 1. The Book has an existing record with the library. 2. The Worker has new Book information. | |
| **Workflow:** | |
| 1. The Worker provides their BannerId and password to the Clerk. 2. The Clerk retrieves the Worker record from the Worker folder using the BannerId provided in Step 1. 3. The Clerk validates the password provided in Step 1 with the password on the Worker record retrieved in Step 2. 4. The Clerk asks the Worker what they would like to do. 5. The Worker informs the Clerk that they would like to modify a Book. 6. The Clerk asks the Worker to provide the Barcode for the Book they would like to modify. 7. The Worker provides the Barcode requested in Step 6 to the Clerk. 8. The Clerk retrieves the Book record from the Book folder using the Barcode provided in step 7. 9. The Clerk provides the Book record retrieved in Step 8 to the Worker and requests them to make the desired changes. 10. The Worker makes changes to the Book record provided in Step 9 and provides it to the Clerk. 11. The Clerk validates the data in the updated Book record provided in Step 10. 12. The Clerk re-files the Book record into the Book folder. 13. The Clerk informs the Worker that the Book record has been successfully modified. | |
| **Results:** | |
| The existing Book information has been modified appropriately. | |
| **Alternates:** | |
| 1. There are no matching Book records. 2. Data type validation fails in step 11. 3. The Worker provides the incorrect identification information. | |
| **Entities Involved:** | |
| Clerk, Worker, Book, Book folder | |

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| **Use Case Name:** | #3 Delete a book |
| **Description:** | |
| The Worker removes an existing Book record within the Book folder. | |
| **Stakeholders:** | |
| Worker, Clerk | |
| **Preconditions:** | |
| 1. The Worker record exists in the Worker Folder. 2. Book record exists in Book folder. | |
| **Workflow:** | |
| 1. The Worker provides their BannerId and password to the Clerk. 2. The Clerk retrieves the Worker record from the Worker folder using the BannerId provided in Step 1. 3. The Clerk validates the password provided in Step 1 with the password on the Worker record retrieved in Step 2. 4. The Clerk asks the Worker what they would like to do. 5. The Worker informs the Clerk that they would like to remove an existing Book. 6. The Clerk asks the Worker to submit the Barcode for the Book they wish to remove. 7. The Worker provides the Barcode requested in Step 6 to the Clerk. 8. The Clerk retrieves the Book record from the Book folder matching the Barcode provided in Step 7. 9. The Clerk displays the Book record retrieved in Step 8 to the Worker then asks the Worker to confirm the deletion. 10. The Worker confirms the deletion to the Clerk. 11. The Clerk sets the Status field in the Book record retrieved in Step 8 to Inactive. 12. The Clerk re-files the Book record into the Book folder. 13. The Clerk informs the Worker that the Book record has been successfully removed. | |
| **Results:** | |
| 1. StudentBorrower has been created and added to the StudentBorrower folder. | |
| **Alternates:** | |
| 1. The Worker provides an incorrect password for the provided BannerId in Step 1. 2. The Worker provides incorrect incomplete StudentBorrower information to the Clerk in Step 7. 3. Data validation fails in Step 8. 4. The StudentBorrower already exists inside the StudentBorrower folder in Step 9. | |
| **Entities Involved:** | |
| Worker, Clerk, StudentBorrower, StudentBorrower Folder, Worker folder | |

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| **Use Case Name:** | #4 Add a new StudentBorrower |
| **Description:** | |
| The Worker adds a StudentBorrower record into the StudentBorrower folder. | |
| **Stakeholders:** | |
| Worker, Clerk, StudentBorrower | |
| **Preconditions:** | |
| 1. The Worker has access to all forms of identification of the StudentBorrower. | |
| **Workflow:** | |
| 1. The Worker provides their BannerId and password to the Clerk. 2. The Clerk retrieves the Worker record from the Worker folder using the BannerId provided in Step 1. 3. The Clerk validates the password provided in Step 1 with the password on the Worker record retrieved in Step 2. 4. The Clerk ask the Worker what they would like to do. 5. The Worker informs the Clerk that they wish to add a new StudentBorrower. 6. The Clerk asks the Worker to provide StudentBorrower information including BannerId, first name, last name, contact phone, e-mail, and notes. 7. The Worker provides the StudentBorrower information that was requested in Step 6 to the Clerk. 8. The Clerk validates the StudentBorrower information provided in Step 7. 9. The Clerk fails to retrieve a StudentBorrower file from the Student folder with the BannerId provided in Step 7. 10. The Clerk creates a new StudentBorrower record containing the information provided in Step 7. 11. The Clerk sets the “BorrowerStatus” field of the StudentBorrower record created in Step 10 to “Good Standing”, the “Status” field to “Active”, the “DateOfRegistration” field to the current date and the “DateOfLatestBorrowerStatus” field to the current date. 12. The Clerk files the StudentBorrower record in the StudentBorrower folder. 13. The Clerk informs the Worker that the StudentBorrower has been added. | |
| **Results:** | |
| 1. StudentBorrower has been created and added to the StudentBorrower folder. | |
| **Alternates:** | |
| 1. The Worker provides an incorrect password for the provided BannerId in Step 1. 2. The Worker provides incorrect or incomplete StudentBorrower information to the Clerk in Step 7. 3. Data validation fails in Step 8. 4. The StudentBorrower already exists inside the StudentBorrower folder in Step 9. | |
| **Entities Involved:** | |
| Worker, Clerk, StudentBorrower, StudentBorrower Folder, Worker folder | |

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| **Use Case Name:** | #5 Modify an existing StudentBorrower’s details |
| **Description:** | |
| The Worker modifies an existing StudentBorrower record within the StudentBorrower folder. | |
| **Stakeholders:** | |
| Worker, Clerk, StudentBorrower | |
| **Preconditions:** | |
| 1. The StudentBorrower has an existing file with the library. | |
| **Workflow:** | |
| 1. The Worker provides their BannerId and password to the Clerk. 2. The Clerk retrieves the Worker record from the Worker folder using the BannerId provided in Step 1. 3. The Clerk validates the password provided in Step 1 with the password on the Worker record retrieved in Step 2. 4. The Clerk asks the Worker what they would like to do. 5. The Worker informs the Clerk that they would like to modify a StudentBorrower. 6. The Clerk asks the Worker to submit the search information (including one or more BannerID, First Name, Last Name, Password, Contact Phone, E-mail). 7. The Worker provides the information requested in Step 6 to the Clerk. 8. The Clerk retrieves all StudentBorrower records from the StudentBorrower folder and creates a collection of all StudentBorrower records matching the search criteria provided in step 7. 9. The Clerk provides the Worker with the collection of StudentBorrower records created in Step 8 and asks the Worker to select the desired record. 10. The Worker selects a StudentBorrower record from the collection provided in Step 9 to the Clerk. 11. The Clerk retrieves the StudentBorrower record from StudentBorrower collection created in Step 9 using the ID selected in Step 10. 12. The Clerk provides the StudentBorrower record retrieved in Step 11 to the Worker and requests them to make the desired changes. 13. The Worker makes changes to the StudentBorrower record provided in Step 12 and provides it to the Clerk. 14. The Clerk validates the data in the updated StudentBorrower record provided in Step 13. 15. The Clerk re-files the StudentBorrower record into the StudentBorrower folder. 16. The Clerk informs the Worker that the StudentBorrower record has been successfully modified. | |
| **Results:** | |
| The existing StudentBorrower information has been modified | |
| **Alternates:** | |
| 1. There are no matching StudentBorrower records. 2. Data type validation fails in step 13. | |
| **Entities Involved:** | |
| Clerk, Worker, StudentBorrower, StudentBorrower folder, Worker folder | |

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| **Use Case Name:** | #6 Delete a StudentBorrower |
| **Description:** | |
| The Worker removes an existing StudentBorrower record within the StudentBorrower folder. | |
| **Stakeholders:** | |
| Worker, Clerk, StudentBorrower | |
| **Preconditions:** | |
| 1. The Worker record exists in the Worker Folder. | |
| **Workflow:** | |
| 1. The Worker provides their BannerId and password to the Clerk. 2. The Clerk retrieves the Worker record from the Worker folder using the BannerId provided in Step 1. 3. The Clerk validates the password provided in Step 1 with the password on the Worker record retrieved in Step 2. 4. The Clerk asks the Worker what they would like to do. 5. The Worker informs the Clerk that they would like to remove an existing Student Borrower. 6. The Clerk asks the Worker to submit the search information (including one or more of the BannerID, First Name, Last Name, Contact Phone, E-mail). 7. The Worker provides the information requested in Step 7 to the Clerk. 8. The Clerk retrieves all Student Borrower records from the Student Borrower folder and creates a collection of all Student Borrower records matching the search criteria provided in Step 8. 9. The Clerk provides the Worker with the collection of Student Borrowers records created in Step 9 and asks the Worker to select the desired record. 10. The Worker selects a Student Borrower record from the collection provided in Step 9 to the Clerk. 11. The Clerk retrieves the Student Borrower record from Student Borrower collection created in Step 10 using the ID selected in Step 11. 12. The Clerk displays the Student Borrower’s record to the Worker then asks the Worker to confirm the deletion. 13. The Worker confirms the deletion to the Clerk. 14. The Clerk sets the Status field in the Student Borrower’s record retrieved in Step 12 to Inactive. 15. The Clerk re-files the Student Borrowers record into the Student Borrower’s folder. 16. The Clerk informs the Administrator that the Student Borrower’s record has been successfully removed. | |
| **Results:** | |
| 1. StudentBorrower has been created and added to the StudentBorrower folder. | |
| **Alternates:** | |
| 1. The Worker provides an incorrect password for the provided BannerId in Step 1. 2. The Worker provides incorrect incomplete StudentBorrower information to the Clerk in Step 7. 3. Data validation fails in Step 8. 4. The StudentBorrower already exists inside the StudentBorrower folder in Step 9. | |
| **Entities Involved:** | |
| Worker, Clerk, StudentBorrower, StudentBorrower Folder, Worker folder | |

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| **Use Case Name:** | #7 Add a new Worker |
| **Description:** | |
| The Administrator adds a Worker record into the Worker folder. | |
| **Stakeholders:** | |
| Administrator, Clerk, Worker | |
| **Preconditions:** | |
| 1. The Administrator has Administrator credentials. 2. The Administrator has access to all forms of identification of the Worker. | |
| **Workflow:** | |
| 1. The Administrator provides their BannerId and password to the Clerk. 2. The Clerk retrieves the Worker record from the Worker folder using the BannerId provided in Step 1. 3. The Clerk validates the password provided in Step 1 with the password on the Worker record retrieved in Step 2. 4. The Clerk asks the Administrator what they would like to do. 5. The Administrator informs the Clerk that they would like to add a Worker 6. The Clerk verifies that the Worker record retrieved in step 2 has Administrator credentials. 7. The Clerk asks the Administrator to provide Worker information including BannerId, password, first name, last name, contact phone, e-mail, and credentials. 8. The Administrator provides the Worker information that was requested in Step 6 to the Clerk. 9. The Clerk validates the Worker information provided in Step 7. 10. The Clerk fails to retrieve a Worker record from the Worker folder with the BannerId provided in Step 7. 11. The Clerk creates a new Worker record containing the information provided in Step 7. 12. The Clerk sets the “Status” field of the Worker record created in Step 10 to “Active”, the “DateOfHire” field to the current date and the “DateOfLatestCredentialsStatus” field to the current date. 13. The Clerk files the Worker record in the Worker folder. 14. The Clerk informs the Administrator that the Worker has been added. | |
| **Results:** | |
| 1. Worker has been created and added to the Worker folder. | |
| **Alternates:** | |
| 1. The Administrator provides an incorrect password for the provided BannerId in Step 1. 2. The Administrator provides incomplete Worker information to the Clerk in Step 7. 3. Data validation fails in Step 8. 4. The Worker already exists inside the Worker folder in Step 9. | |
| **Entities Involved:** | |
| Administrator, Clerk, Worker, Worker folder | |

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| **Use Case Name:** | #8 Modify an existing Worker’s details |
| **Description:** | |
| The Administrator modifies an existing Worker record within the Worker folder. | |
| **Stakeholders:** | |
| Administrator, Clerk, Worker | |
| **Preconditions:** | |
| 1. The Worker has an existing file with the library. 2. The Administrator has Administrator credentials. | |
| **Workflow:** | |
| 1. The Administrator provides their BannerId and password to the Clerk. 2. The Clerk retrieves the Worker record from the Worker folder using the BannerId provided in Step 1. 3. The Clerk validates the password provided in Step 1 with the password on the Worker record retrieved in Step 2. 4. The Clerk asks the Administrator what they would like to do. 5. The Administrator informs the Clerk that they would like to modify a Worker. 6. The Clerk verifies that the Worker record retrieved in Step 2 has Administrator credentials. 7. The Clerk asks the Administrator to submit search information for a Worker record (including one or more of the BannerId, first name, last name, password, contact phone, or e-mail). 8. The Administrator provides the information requested in Step 7 to the Clerk. 9. The Clerk retrieves the collection of all Worker records from the Worker folder matching the information provided in Step 7. 10. The Clerk provides the Administrator with the collection of Worker records created in Step 9 and asks the Administrator to select a Worker record. 11. The Administrator selects a Worker record from the collection provided in Step 10 for the Clerk. 12. The Clerk retrieves the Worker record requested in Step 11 from the collection of Worker records retrieved in Step 9. 13. The Clerk provides the Worker record retrieved in Step 12 to the Administrator and requests for them to make the desired changes. 14. The Administrator makes changes to the Worker record provided in Step 13 and provides it to the Clerk. 15. The Clerk validates the data in the updated Worker record provided in Step 14. 16. The Clerk re-files the Worker record into the Worker folder. 17. The Clerk informs the Administrator the Worker record has been successfully modified. | |
| **Results:** | |
| The existing Worker information has been modified. | |
| **Alternates:** | |
| 1. The Administrator provides an incorrect password for the provided BannerId in Step 1. 2. No worker records match the search parameters provided by the Administrator in Step 8. 3. Modified Worker information could not be validated in Step 15. | |
| **Entities Involved:** | |
| Administrator, Worker, Clerk, Worker folder | |

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| **Use Case Name:** | #9 Delete an existing Worker |
| **Description:** | |
| The Administrator removes an existing Worker record within the Worker folder. | |
| **Stakeholders:** | |
| Administrator, Clerk, Worker | |
| **Preconditions:** | |
| 1. The Worker record exists in the Worker Folder. 2. The Administrator has Administrator credentials. | |
| **Workflow:** | |
| 1. The Administrator provides their BannerId and password to the Clerk. 2. The Clerk retrieves the Worker record from the Worker folder using the BannerId provided in Step 1. 3. The Clerk validates the password provided in Step 1 with the password on the Worker record retrieved in Step 2. 4. The Clerk asks the Administrator what they would like to do. 5. The Administrator informs the Clerk that they would like to remove an existing Worker. 6. The Clerk verifies that the Worker record retrieved in Step 2 has Administrator credentials. 7. The Clerk asks the Administrator to submit the search information (including one or more of the BannerID, First Name, Last Name, Contact Phone, E-mail). 8. The Administrator provides the information requested in Step 7 to the Clerk. 9. The Clerk retrieves all Worker records from the Worker folder and creates a collection of all Worker records matching the search criteria provided in Step 8. 10. The Clerk provides the Administrator with the collection of Worker records created in Step 9 and asks the Worker to select the desired record. 11. The Administrator selects a Worker record from the collection provided in Step 9 to the Clerk. 12. The Clerk retrieves the Worker record from Worker collection created in Step 10 using the ID provided in Step 11. 13. The Clerk displays the Worker record to the Administrator then asks the Administrator to confirm the deletion. 14. The Administrator confirms the deletion to the Clerk. 15. The Clerk sets the Status field in the Worker record retrieved in Step 12 to Inactive. 16. The Clerk re-files the Worker record into the Worker folder. 17. The Clerk informs the Administrator that the Worker record has been successfully removed. | |
| **Results:** | |
| The Worker record no longer exists inside the Worker folder. | |
| **Alternates:** | |
| 1. The user doesn’t have admin credentials 2. There is no matching Worker records. 3. The Administrator doesn’t confirm the removal of the Worker record. | |
| **Entities Involved:** | |
| Clerk, Worker, Administrator, Worker folder | |

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| **Use Case Name:** | #10 Check out a book |
| **Description:** | |
| The Worker checks out a Book for a StudentBorrower and creates a new Rental record. | |
| **Stakeholders:** | |
| Worker, Clerk, StudentBorrower | |
| **Preconditions:** | |
| 1. The StudentBorrower provides the Worker with a Book and their BannerId. 2. The Clerk knows the current date. | |
| **Workflow:** | |
| 1. The Worker provides BannerId and password to the Clerk. 2. The Clerk retrieves the Worker record from the Worker folder using the BannerId provided in Step 1. 3. The Clerk validates the password provided in Step 1 with the password on the Worker record retrieved in Step 2. 4. The Clerk asks the Worker what they would like to do. 5. The Worker informs the Clerk that they would like to check out a Book. 6. The Clerk asks the Worker for the BannerId of the StudentBorrower who is renting the Book. 7. The Worker provides the BannerId requested in Step 6 to the Clerk. 8. The Clerk retrieves the StudentBorrower record from the StudentBorrower folder matching the BannerId provided in Step 7. 9. The Clerk verifies that the BorrowerStatus of the StudentBorrower record retrieved in Step 8 is set to “Good Standing”. 10. The Clerk asks the Worker for the Barcode of the Book. 11. The Worker provides the Barcode requested in Step 10 to the Clerk. 12. The Clerk retrieves the Book record from the Book folder matching the Barcode provided in Step 11. 13. The Clerk verifies that the Condition of the Book record retrieved in Step 12 is set to “Good”. 14. The Clerk fails to retrieve a Rental record where the BookId matches the Barcode of the Book retrieved in Step 12 and the CheckInDate is set to either NULL or “”. 15. The Clerk computes the DueDate for the Rental record using the current date. 16. The Clerk creates a new Rental record. 17. The Clerk sets the BorrowerId of the Rental record from Step 16 to the BannerId of the StudentBorrower record retrieved from Step 8, the BookId to the Barcode of the Book record retrieved in Step 12, the CheckoutDate to the current date, the CheckoutWorkerId to the BannerId of the Worker record retrieved from Step 2, the DueDate to the value computed in Step 15, and the CheckinDate and CheckinWorkerId to NULL. 18. The Clerk files the Rental record created in Step 16 into the Rental folder. 19. The Clerk informs the Worker that the Book has been successfully checked out. | |
| **Results:** | |
| The Book has been checked out and a new Rental record has been created. | |
| **Alternates:** | |
| 1. The Worker provides an incorrect password for the provided BannerId in Step 1. 2. The BannerId for the StudentBorrower provided in Step 7 does not match an existing StudentBorrower record. 3. The StudentBorrower record retrieved in Step 8 has the BorrowerStatus set to “Delinquent”. 4. The Barcode for the Book provided in Step 11 does not match an existing Book record. 5. The Book record retrieved in Step 12 has the Condition set to “Damaged”. 6. There is an existing Rental record with the BookId set to the Barcode of the Book retrieved in Step 12 and the CheckinDate set to either NULL or “”. | |
| **Entities Involved:** | |
| Clerk, Worker, StudentBorrower, Book, Rental, Worker folder, StudentBorrower folder, Book folder, Rental folder | |

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| **Use Case Name:** | #11 Check in a book |
| **Description:** | |
| The Worker checks in a Book and updates the existing Rental record. | |
| **Stakeholders:** | |
| Worker, Clerk, StudentBorrower | |
| **Preconditions:** | |
| 1. The StudentBorrower provides the Worker with a Book and their BannerId. 2. The Clerk knows the current date. | |
| **Workflow:** | |
| 1. The Worker provides their BannerId and password to the Clerk. 2. The Clerk retrieves the Worker record from the Worker folder using the BannerId provided in Step 1. 3. The Clerk validates the password provided in Step 1 with the password on the Worker record retrieved in Step 2. 4. The Clerk asks the Worker what they would like to do. 5. The Worker informs the Clerk that they would like to check in a Book. 6. The Clerk asks the Worker for the Barcode of the Book. 7. The Worker provides the Barcode requested in Step 6 to the Clerk. 8. The Clerk retrieves the Rental record from the Rental folder with the BookId matching the Barcode of the Book record retrieved in Step 7 and the CheckinDate set to NULL or “”. 9. The Clerk sets the CheckinDate of the Rental record retrieved in Step 9 to the current date, and sets the CheckinWorkerId to the BannerId of the Worker record retrieved in Step 2 10. The Clerk re-files the Rental record into the Rental folder. 11. The Clerk informs the Worker that the Book has been successfully checked in. | |
| **Results:** | |
| The Book has been checked in and the associated rental record has been updated | |
| **Alternates:** | |
| 1. The Worker provides an incorrect password for the provided BannerId in Step 1. 2. The Barcode for the Book provided in Step 7 does not match an existing Book record. 3. The Book is too damaged to accept. | |
| **Entities Involved:** | |
| Clerk, Worker, Worker folder, Rental Record, Rental folder | |

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| **Use Case Name:** | #12 Run delinquency check |
| **Description:** | |
| The Administrator runs a delinquency check to mark every StudentBorrower with an overdue Book as delinquent. | |
| **Stakeholders:** | |
| Administrator, Clerk, StudentBorrower | |
| **Preconditions:** | |
| 1. The Administrator has Administrator credentials. | |
| **Workflow:** | |
| 1. The Administrator provides their BannerId and password to the Clerk. 2. The Clerk retrieves the Worker record from the Worker folder using the BannerId provided in Step 1. 3. The Clerk validates the password provided in Step 1 with the password on the Worker record retrieved in Step 2. 4. The Clerk asks the Administrator what they would like to do. 5. The Administrator informs the Clerk that they would like to run a Delinquency Check 6. The Clerk verifies that the Worker record retrieved in Step 2 has Administrator credentials. 7. The Clerk retrieves a collection of rental records where the check-in date is null or empty and the due date is (today/ less than today) 8. For each rental record retrieved in step 7:    1. Clerk gets the next Rental record in the collection    2. Clerk uses the BannerID from the Rental record retrieved in step A to retrieve a Student Borrower record from the Student Borrower folder    3. The Clerk sets the Student Borrower record’s BorrowerStatus to Delinquent    4. The Clerk refiles the Student Borrower record into the Student Borrower folder   9) The Clerk informs the Administrator that the Delinquency Check was successful | |
| **Results:** | |
| All students who have not returned their books by the due date will receive a Delinquent status | |
| **Alternates:** | |
| 1. The Administrator provides an incorrect password for the provided BannerId in Step 1. | |
| **Entities Involved:** | |
| Clerk, Administrator, Rental Folder, StudentBorrower folder, Worker folder | |

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| **Use Case Name:** | #13 List all Books that are currently checked out |
| **Description:** | |
| The Worker requests the Clerk to display a list of all Books that are checked out. | |
| **Stakeholders:** | |
| Worker, Clerk | |
| **Preconditions:** | |
| 1. The Worker has is able to provide their BannerId and password | |
| **Workflow:** | |
| 1. The Worker provides their BannerId and password to the Clerk. 2. The Clerk retrieves the Worker record from the Worker folder using the BannerId provided in Step 1. 3. The Clerk validates the password provided in Step 1 with the password on the Worker record retrieved in Step 2. 4. The Clerk asks the Worker what they would like to do. 5. The Worker informs the Clerk that they would like a list of all books that are checked out. 6. The Clerk retrieves a collection of rental records where the check-in date is null or empty. 7. The Clerk creates an empty collection of book records. 8. For each rental record retrieved in step 6:    1. The Clerk gets the next Book record in the collection.    2. The Clerk uses the BookId in Step A to retrieve a Book record in the Book folder with the same Barcode.    3. The Clerk adds the Book record to the collection created in Step 7. 9. The Clerk displays the collection in Step 8 to the Worker. | |
| **Results:** | |
| The existing Book information has been modified | |
| **Alternates:** | |
| 1. The Worker provides an incorrect password for the provided BannerId in Step 1. | |
| **Entities Involved:** | |
| Clerk, Worker, Book folder, Rental folder, Worker folder | |

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| **Use Case Name:** | #14 List all StudentBorrowers that currently have a Book checked out |
| **Description:** | |
| The Worker requests the Clerk to display a list of all StudentBorrowers that have a book checked out. | |
| **Stakeholders:** | |
| Worker, Clerk | |
| **Preconditions:** | |
| The Worker has is able to provide their BannerId and password | |
| **Workflow:** | |
| 1. The Worker provides their BannerId and password to the Clerk. 2. The Clerk retrieves the Worker record from the Worker folder using the BannerId provided in Step 1. 3. The Clerk validates the password provided in Step 1 with the password on the Worker record retrieved in Step 2. 4. The Clerk asks the Worker what they would like to do. 5. The Worker informs the Clerk that they would like a list of all StudentBorrowers that have books checked out. 6. The Clerk retrieves a collection of rental records where the check-in date is null or empty. 7. The Clerk creates an empty collection of StudentBorrower records. 8. For each rental record retrieved in step 6:    1. The Clerk gets the next Rental record in the collection.    2. The Clerk uses the BorrowerId found in the Rental record from step A and finds a Student Borrower record with a matching BannerID.    3. The Clerk adds the StudentBorrower record to the collection created in Step 7. 9. The Clerk displays the collection from Step 8 to the Worker. | |
| **Results:** | |
| All Student Borrowers that have books that are checked out are displayed | |
| **Alternates:** | |
| 1. The Worker provides an incorrect password for the provided BannerId in Step 1. | |
| **Entities Involved:** | |
| Worker, Clerk, Rental folder, StudentBorrower folder, Worker folder | |