Library system requirements analysis

1. List of requirements:
    - The system stores books. The status of a book is either available or borrowed.
    - The system also stores book copies. A book can have several copies. The status of a book copy is either available or borrowed.
    - The system must be able to show the amount of copies of a particular book. This functionality is only available to Staff users.
    - The system shall provide functionality to repair book copies. The status of a book copy is either available or borrowed or broken. If the book is in status broken, this functionality repairs the book by setting a string attribute to available. This functionality is available to any user.
    - The system shall provide functionality to borrow book copies. The user selects an available book and borrows it. This functionality is only available to Borrower users.
    - The system shall provide functionality to return book copies. The user returns a book if the book status is borrowed. This functionality is available to any user.
    - There are two kind of users: Administrator and Borrower. The Administrator user can access any functionality, and the Borrower user only has specific functionalities
    - Any Administrator user can check how many books are available and how many books are borrowed. Furthermore, the Administrator user can check how many books are damaged. To borrow, or return a book, the user has to log in first.
    - The system shall be able to display a list of books authored or co-authored by a given author. The list shall be ordered in chronological order. If the author published more than one book in the same year, the list should be also order by the title.
    - The system shall be able to display a list of books in given subject area. The list shall be ordered by topic in chronological order. If there is an author who published more than one book in the same year, and area, the list should be also order by the title.
    - The system shall be able to display a list of books that a given user has checked out. The list should be ordered by date.
    - The system shall be able to finding out what borrower last checked out a particular copy of a book.

2. Add 3-4 requirements that you think are suitable to this context and situation
3. Which requirements do you believe must be included? Which should definitely be excluded? Which are nice to have?
4. Give at least one example of Necessity Dependency, Effort Dependency, Subset Dependency, Cover Dependency
5. In this context, what requirement do you think can cause a conflict? Why? and how do you think you it can be solved?
6. Define priorities and risk for every requirement.
    a. Priorities: Defines the order in which requirements should be implemented. Priorities are 1, 2, 3, and 4 (highest to lowest). Requirements of priority 1 are mandatory for the first implementation; requirements of priority 2 are mandatory for the final implementation; priority 3 is used for features that are optional, but the client would like to have it; priority 4 is used for optional features.
    b. Risk: Specifies the risk of not implementing the requirement. It shows how critical the requirement is to the system as a whole; The following risk levels are defined over the impact of not being implemented correctly.
        i. Critical: it will break the main functionality of the system. The system cannot be used if this requirement is not implemented.
        ii. High: it will impact the main functionality of the system. Some functions of the system could be inaccessible, but the system can generally be used.
        iii. Medium: it will impact some system features, but not the main functionality. The system can still be used with some limitations.
        iv. Low: the system can be used without limitations, but with some workarounds.