Software Engineering Assignment

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**What we chose:**

For this assignment, we selected the option to "Extend and test a more comprehensive USE model for the Library system in USE." The use case we developed focuses on reserving books and includes constraints to ensure that a book cannot be reserved or borrowed if it is already in use, and that a member cannot borrow a book they have previously reserved. To manage the state of each copy, I implemented state machines. Alongside the model, I have provided a SOIL file with sample commands to create member, book, and copy objects, which can be used for testing and demonstration purposes.

**Class diagram:**

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**Object Diagram:**

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**Sequence Diagram:**

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**Constraints:**

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**Testing:**

when a library member tries to reserve a book that has already been reserved by another member:

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When a library member tries to borrow a book that they have not reserved:

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When a member tries to borrow a book they have reserved:

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AI-generated content may be incorrect.

**Use and Soil files:**

Lib.use: