# Example User/Stakeholder requirements documen

| URID | Requirement | Source | Comments |
|---|---|---|---|
| **Capabilities** | | | |
| 1. | Grab book | | |
| 1.1 | The mechanism shall be able to retrieve the book when laying flat on a surface. | Requested by user: Alex | Spine is horizontal<br>High priority |
| 1.2 | The mechanism should be able to hold the book without slipping. | User requested "no damage to book" and clarified that book should not be dropped | High priority |
| 2. | Move to shelf | | |
| 2.1 | The book should be rotated so that it can be stored efficiently on the shelf. | Standard user practice | Spine is vertical |
| 2.2 | The mechanism should be able to put the book at the back of a 18in deep shelf. | Environmental constraint | Med priority |
| 3. | Place book on shelf | | |
| 3.1 | The system should be able to adjust its final position to avoid collision with other books. | | Low priority feature |
| 3.2 | The system should be able to place a book between two others without disturbing them. | Requested by user: Shuvankar | "Disturbing" here means toppling, or damaging |
| 3.3 | The book should release the book in its final position without disturbing the surroundings | | High priority |
| 4. | Return to start | | |
| 4.1 | The mechanism should carefully withdraw from the shelf to avoid damage | Requested by users, related to damage | "Carefully" needs to be furthered explored in the system requirements |
| 4.2 | The mechanism should automatically return to the starting position | Requested by user: Shuvankar | High priority |
| **Constraints** | | | |
| 1.3 | The user should not have to monitor the mechanism to verify that the book is secure. | | Med priority |
| 5. | Quality of motion | | |
| 5.1 | The motion of moving the book from start to finish should take no more time than it takes the user to do this by hand. | | |
| 5.2 | The overall motion should be appear smooth | Requested by user for aesthetic purposes | Related to vibration and may impact other<br>Med priority |
| 5.3 | The system shall avoid scraping the book along the surface to prevent noise or damage. | | High priority |
| 5.4 | The motion should be predictable, and reliable so that unintended damage is avoided. | Requested by users, related to damage | High priority |