Inventory Management Application

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System Requirements

*Functional Requirements*

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| IN - 001 | **Users** should be able to scan an **item** and find information about that item, specified by the system **administrators**. |
| IN - 002 | **Users** should be allowed to modify the amount of an **item** in a list. |
| IN - 003 | **Users** should be allowed to manually add new **items**. |
| IN - 004 | **Users** should be allowed to add categories to organize the i**tems** by. |
| IN - 005 | **Users** should be able to filter **items** to make looking for **items** easier. |

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| OT - 001 | The **application** shall return all the **items** data after an **item** is scanned. |
| OT - 002 | The **system** shall send inventory **reports** to all system **administrators** on a specified schedule. |
| OT - 003 | The **application** shall prompt the **user** if the scanned item is not found in  the **database**. |
| OT - 004 | A **notification** should be sent out to the appropriate **individuals** regarding a change. |
| OT - 005 | Show **items** sorted in alphabetical order and based on categories and filter settings. |

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| PT - 001 | The **application** shall allow **users** to scan existing **items** and retrieve. |
| PT - 002 | The **application** shall allow the admin to generate basic statistical **reports** on the inventory. |
| PT - 003 | The **system** should be configurable by the **admin**. (custom categories and fields for different applications) |
| PT - 004 | The **application** shall allow the **admin** to generate a sales analysis to predict future inventory requirements. |
| PT - 005 | The **application** shall allow all **users** to search, sort, and filter inventory results. |
| PT - 006 | The **Application** shall allow **admins** to assign user roles |

*Non-Functional Requirements*

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| IN - 101 | **Users** should not be allowed to access supply listings that are outside their level of permissions. |
| IN - 102 | **Users** should not be allowed to modify the quantity of an **item** without correct permissions. |
| IN - 103 | **Items** being added should not be in the system already. |
| IN - 104 | **Item** addition should only be done when all required fields are filled out. |
| IN - 105 | Modifying information in the **database** should be logged. |

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| OT - 101 | **Data** that is output should always be complete, correct, and consistent with the **database**. |
| OT - 102 | The **system** should catch and handle any data errors or SQL exceptions on output. |
| OT - 103 | Document output and user requesting output and store information in a **report**. |
| OT - 104 | Output **data** should always be exactly consistent with the data request or an error shall be reported. |

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| PT - 101 | Access to the **data** should be exactly consistent with the defined permissions. |
| PT - 102 | The **system** shall monitor storage capacity before each save and send alerts if storage is 85% full. |
| PT - 103 | The **software** shall display the UI responsively between different android devices. |
| PT - 104 | The **system** shall use multi-threading to separate background tasks and UI tasks. |
| PT - 105 | The **system** shall not take longer than 10 seconds to retrieve and display proper information when network connection is not an issue. |
| PT - 106 | The **system** shall store all data in a DBMS on an external server. |
| PT - 107 | The **application** shall be open source and available at no cost. |
| PT - 108 | Multiple **users** should be able to access the database at the same time. |

Table With Unique Nouns

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| **Noun** | **State** | **Responsibility** | **Behavior** | **Not Redundant** | **Within scope** |
| User | ✔ | ✔ | ✔ | ✔ | ✔ |
| Admin | ✔ | ✔ | ✔ | ✔ | ✔ |
| Item | ✔ |  | ✔ | ✔ | ✔ |
| Database |  |  |  | ✔ | ✔ |
| Report | ✔ |  | ✔ | ✔ | ✔ |
| Application | ✔ | ✔ | ✔ | ✔ | ✔ |
| System |  |  |  | ✔ | ✔ |
| Software |  |  |  |  | ✔ |
| Data | ✔ |  |  | ✔ | ✔ |
| Document |  |  | ✔ |  | ✔ |

Class Diagram

