Test Plans

Inventory Management System

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# Tests and Analysis

## Hardware Tests

|  |  |  |  |
| --- | --- | --- | --- |
| Component | Test | Failure | Analysis |
| Hard Drive | MHDD | Any block >500ms read or any uncorrectable | Bad drive |
| RAM | MemTest86 | Less than 3 successful passes, or any failed passes | Bad ram |
| CPU | Prime95 | Shutdown before 24hr | Bad processor |
| Backup Storage | Recover from image | Corrupted image or failed recovery | Need new backup solution |
| Backup Storage | Nightly Checksum | Inconsistent checksum | Check backup process |

## Software Tests

### Database Performance

|  |  |  |  |
| --- | --- | --- | --- |
| Function | Test | Failure | Analysis |
| Add Item | Add an item | Item not added | Misconfigured database or API call |
| Add Item | Add existing item | Allows it | Not checking if item is already in database |
| Remove Item | Remove existing item | Item not removed | Misconfigured database or API call |
| Remove Item | Remove non-existing item | Error not thrown | Not checking to see if item exists before removing |
| Modify Item | Change an item’s properties | Properties not changed | Misconfigured database or API call |
| Modify Item | Change a non-existing item’s properties | Error not thrown | Not checking if an item exists before modifying |
| Modify Item | Chang an item’s non-existing property | Error not thrown | Not checking if modification is valid |
| Search Database | Search for an item that exists | Item not returned | Search function implemented wrong |

### Application

|  |  |  |  |
| --- | --- | --- | --- |
| Screen | Test | Failure | Analysis |
| Login | Correct user | Failed login | Verification process wrong |
| Login | Incorrect credentials | Allows it | Not actually checking credentials |
| Login | Exceed login attempts | Not locking account | Not recording number of attempts accurately |
| Home | Shows items in user’s database | Wrong items or no items shown | API call to database incorrect |
| Home | Add item to database | Item is not added | API call to database incorrect |
| Home | Search item in database | Matching items not returned | API call to database incorrect |
| Home | Clicking item | Doesn’t transfer to correct item screen | API call to database incorrect |
| Item | Click on item | Does not retrieve correct properties | API call to database incorrect |
| Menu | Edit account information | Modifications not saved to account | API call to database incorrect |

# Acceptance Test

1. Log in with user account
2. Add 25 Items to the database
3. Remove 5 items from the database
4. Modify the properties of one item
5. Search for the newly modified item

# System Recovery Procedure

1. In event of failed hardware
   1. Replace failed hardware and then recover from most recent backup.
2. In event of database malfunction
   1. Perform component and acceptance tests on database to identify issue and resolve appropriately.
3. In event of application failure
   1. Perform component and acceptance tests on appropriate API calls in order to distinguish the failing procedure and remedy.