INVENTORY MANAGEMENT SYSTEM
A Report for the Evaluation 3 of Project
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Submitted by

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ABSTRACT

Inventory Management System is important to ensure quality control in businesses that handle transactions revolving around consumer goods. Without proper inventory control, a large retail store may run out of stock on an important item. A good Inventory Management System will alert the retailer when it is time to reorder. Inventory Management System is also an important means of automatically tracking large shipments. For example, if a business orders ten pairs of socks for retail resale, but only receives nine pairs, this will be obvious upon inspecting the contents of the package, and error is not likely. On the other hand, say a wholesaler orders 100,000 pairs of socks and 10,000 are missing. Manually counting each pair of socks is likely to result in error. An automated Inventory Management System helps to minimize the risk of error. In retail stores, an Inventory Management System also helps track theft of retail merchandise, providing valuable information about store profits and the need for theft-prevention systems. Automated Inventory Management System work by scanning a barcode either on the item. A barcode scanner is used to read the barcode, and the information encoded by the barcode is read by the machine. This information is then tracked by a central computer system. For example, a purchase order may contain a list of items to be pulled for packing and shipping. The Inventory Management System can serve a variety of functions in this case. It can help a worker locate the items on the order list in the warehouse, it can encode shipping information like tracking numbers and delivery addresses, and it can remove these purchased items from the inventory tally to keep an accurate count of in-stock items. All of this data works in tandem to provide businesses with real-time inventory tracking information. Inventory Management System make it simple to locate and analyze inventory information in real-time with a simple database search.

1.   Inventory Management

Introduction to Inventory Management

Definition

Inventory Management is an enterprise-wide discipline concerned with the identification and tracking of Information Services (IS) hardware and software assets. Its three main areas of concern are:

- Acquisition.
- Redeployment.
- Termination.

Acquisition procedures are established to assist personnel in procurement of software and hardware products. Its main purpose is to ensure that proper justifications are performed and that financial guidelines are followed.

Redeployment procedures are responsible for ensuring that assets are tracked when moved from one location to another and that budgetary considerations are adjusted as needed. Should a product be moved in conjunction with its original owner then the Inventory System is updated to reflect the new location. Should a product location and owner change, then the Inventory System must be updated to reflect the new owner and their location. In this case, the old product is deleted from the original owner's budget and added to the new owner's budget.

Termination is responsible for deleting the asset from the inventory when it is discontinued, or replaced. The owner's budget will be updated to reflect the asset termination and the asset will no longer be listed when location reports are generated.

The Inventory System is maintained within a database that ties an asset to its owner and defines the location where the asset resides. The relative importance of the asset is added to the inventory record (i.e., Criticality = 1-5, where 1 is "Most Critical"). Based on this information the contingency planning specialist can plan asset recoveries needed to support critical business operations.

Like all databases, the Inventory System will only be effective if its information is kept current. To ensure the accuracy of the Inventory System, while not adding too great a burden to company personnel, every effort must be taken to implement processes that maintain inventory data with a minimum work effort from personnel

Inventory Management provides:

- Up-to-date information about data processing resources through the creation and archiving of records in a centralized repository.

- Financial records specific to a single component, or groups of

  components.

- Service records for all components in the inventory.

- Data used to support configuration diagrams of the hardware and software components contained within specific locations, or the entire data processing environment.

Scope

The Inventory Management discipline encompasses all system and data network elements from the mainframe through the server level to the PC or end component throughout the enterprise.

All mainframe and data network based hardware and software assets must be identified and entered into the Inventory System. Any changes to these environments must be reflected in the Inventory System.

Financial and technical product information must be available through the Inventory System, as needed to support the functional responsibilities of personnel within the finance and contracts management departments.

Asset criticality must be included with asset descriptive and financial information, so that the Recovery Management department is supplied with the information it requires.
Recovery actions must be implemented to safeguard critical assets.

The Standards and Procedures Manual section relating to Inventory Management must be created and published. This section must describe the process by which assets are identified, entered into the Inventory Management System, tracked, and finally deleted.
All information needed by personnel to perform Inventory Management functions must be clearly described within this S&P Manual section.

Finally, personnel responsible for implementing, supporting, and maintaining assets must have access to the Inventory Management System to identify asset information needed by them to perform their functional responsibilities. This process includes logging the availability or assets, their support history, and any maintenance activity performed on the asset.

Mission

The mission of an Inventory System is to provide a Central Asset Repository of information used to define assets and relate the asset to its owner, location, and relative importance. This information will provide personnel with data needed to support their job functions, for example:

- Facilities Management will be able to plan Heating, Ventilation and Air Conditioning (HVAC) requirements, as well as power and floor space needed to support equipment listed in the Asset Repository for a specific location.

- Financial Services will be able to budget for asset procurement, depreciate assets over time, and prepare complete tax documents.

- Contracts Management will be able to negotiate vendor discounts and enterprise agreements.

- Contingency Planning personnel will be able to develop recovery plans for mainframe and office assets contained within the Inventory System based on the assets relative importance (as stated within the Criticality field).

- Technical personnel will be able to resolve problems more quickly with the information contained within the Inventory System, because they will have a listing of the assets contained within a location and any support or maintenance activities associated on the asset.

The Inventory System should be integrated within the everyday functions performed by personnel associated with entering and maintaining asset information. The system will reduce the effort devoted to asset management, while supplying many personnel with the information they need to perform their functional responsibilities.

Objectives

The objective of Inventory Management is to manage the physical and logical properties of I/S resources and their relationship, while ensuring that service level commitments are achieved. This process will:

- Ensure efficient and timely identification of vital corporate assets.
- Assist in managing the enterprise-wide inventory.
- Provide a common repository for asset protection.
- Plan and control the proliferation of assets across the enterprise.

The objectives of Inventory Management are:

- To identify and track all data processing assets in an Inventory System Repository.

- To define the process by which assets are identified and maintained in the Inventory System.

- To provide Inventory System access to all necessary personnel (data entry, view, update and deletion).

- To provide a full range of reports that will satisfy informational

   requirements.

- To document the Inventory Management System within the Standards

   andProcedures Manual.

- To provide training to personnel responsible for supporting the Inventory Management System.

Functional Areas.

The functional areas that interface with an Inventory Management System are:
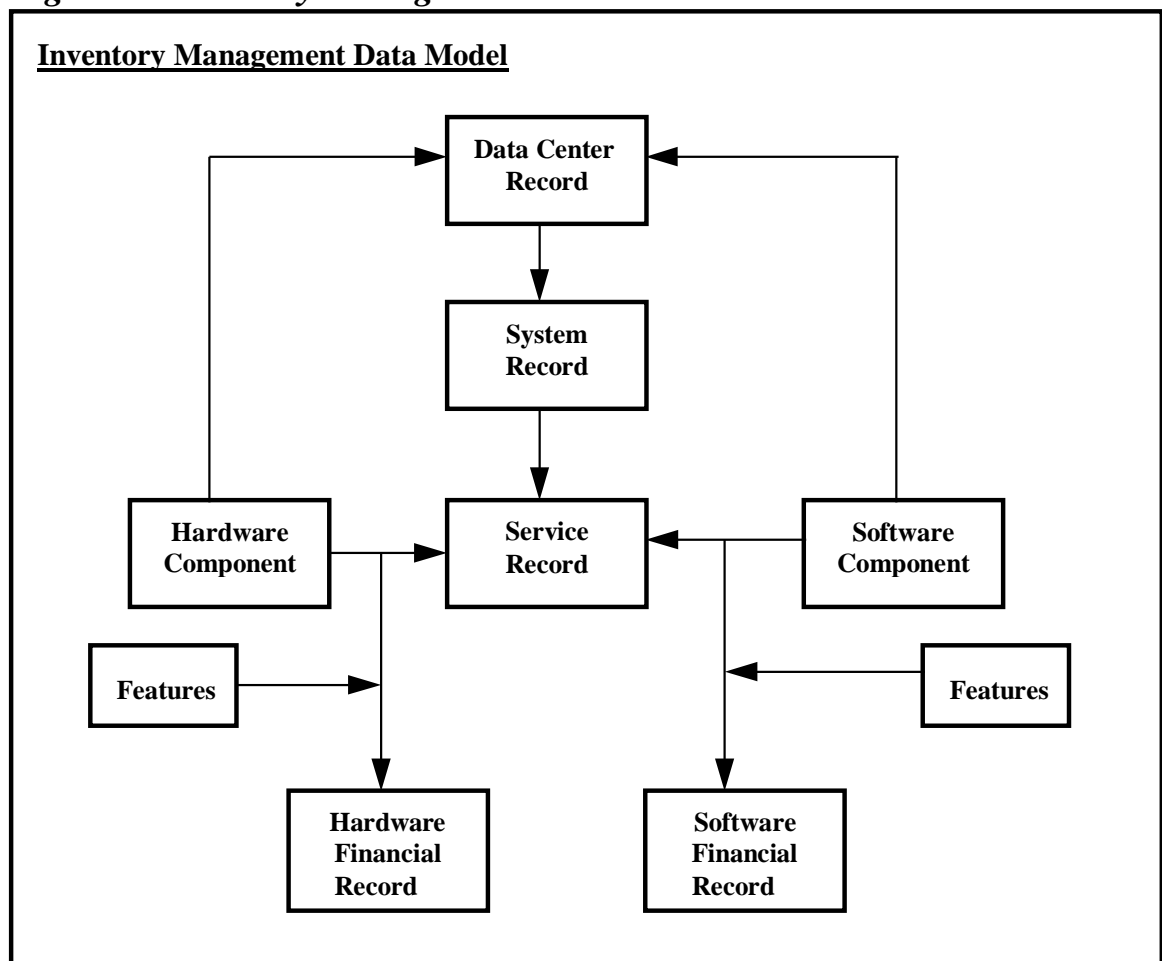
Figure 1: Overview of Inventory Management functional areas.
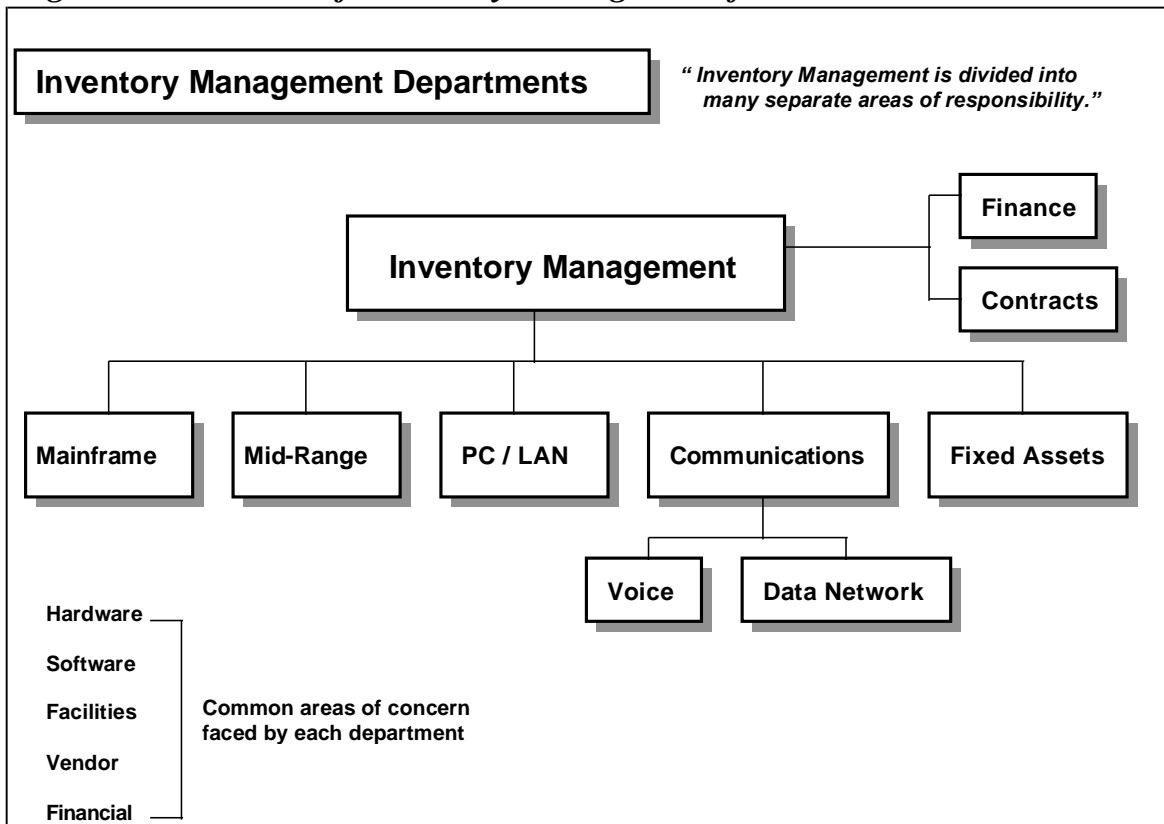
All of the functional areas listed above can utilize the information contained within the Inventory Management System's Central Asset Repository of information. Additionally, the Recovery Management area could utilize inventory information to identify an assets criticality (especially when the asset's location and owner are identified within the Inventory Management System). Through the use of reports generated from the Inventory Management System's Repository, it would be possible to obtain a listing of all "Most Critical" resources, by location and group. This report would then serve as the basis of a Business Recovery Plan.

Inventory Management Data Model

Figure 2: Inventory Management Data Model

Inventory Management Data Model

	Data Center Record	
	System Record	
Hardware Component	**Service Record**	**Software Component**
Features		**Features**
Hardware Financial Record		**Software Financial Record**

The following items are required from asset sources to support an integrated Configuration Management approach.

1. Data Center Record.

This record contains on-line information about the data processing centers, the system name, location codes, emergency phone numbers, managers, and contact names. The software and hardware components, and system records will refer to this record.

2. System Record

This record contains information relative to each processing system within the processing center. This record should contain the system names by LPAR, location codes, operator names, and support numbers. Software and hardware components can refer to this record.

3. Service Record

This record contains the service organization's data. Maintaining service organization records is advantageous when a user is displaying a record of a failing component. This record should contain the name, location, prime-shift phone number, off-shift phone number, hardware and software representative's name, contact phone numbers, and a description of the service organization. Hardware and software components can refer to this record.

4. Financial Record

Helpful information in this record assists in warranty and service incidents. Hardware financial records contain a user financial id, a financial type, and a description. For software records the same information is required in addition to a license type record entry.

5. Hardware Components

For hardware component records a consensus must be reached on the hardware types to be managed. A hardware model record for each hardware type will be created and all common hardware components will be entered using this template.

6. Software Components

For software component records a consensus must be reached as to what level of installed software will be within the scope of the asset database. For example, is the workstation (PC-based) software to be managed? If so, are we to account for all application software or just operating system software?

The answers to these questions are linked to what kind of information the user support groups require to provide service to the client. In a centralized Help Desk environment, all user application software, including maintenance levels, are maintained. This provides up-to-date information to the Help Desk personnel about the user environment and adds greatly to their productivity.

A software model record for each component contains an ID, maintenance level, program type, status and a description. A typical software record should contain the following information:

- System (application runs on)
- Name
- Model
- Serial Number
- Renewal Date
- License Type
- Contract Type
- Maintenance

7. Feature Components Record

This record identifies associated features and relates these features back to other records.

8. Model Component Record

The industry uses this type record as a productivity tool to greatly enhance the ability to build large data bases quickly with minimum data entry errors.

Model records themselves do not hold configuration data, but they make the entry of data easier by allowing the creation of component records from models that hold information common to a number of components (or subcomponents) of the same type.

The model capability also provides the ability to build one or many relationships between model features and hardware or software components. Features that are common to many components can be contained in a single model feature record that is referred to by many component records.

Coding Implementation

Code For Login Page And Validation

```php
        <?php include('server.php') ?>
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Login</title>

    <!-- Font Icon -->
    <link rel="stylesheet" href="fonts/material-icon/css/material-design-iconic-font.min.css">

    <!-- Main css -->
    <link rel="stylesheet" href="css/style.css">
</head>


    <!-- Sing in  Form -->
    <section class="sign-in">
      <div class="container">
        <div class="signin-content">
          <div class="signin-image">
            <figure><img src="images/signin-image.jpg" alt="sing up image"></figure>
            <a href="register.php" class="signup-image-link">Create an account</a>
          </div>

          <div class="signin-form">
            <h2 class="form-title">Login</h2>
            <form method="POST" class="register-form" action="login.php" id="login-form">
            <?php include('errors.php'); ?>
              <div class="form-group">
                <label for="your_name"><i class="zmdi zmdi-account material-icons-name"></i></label>
                <input type="text" name="username" id="username"
required="_required"placeholder="username"/>
              </div>
              <div class="form-group">
                <label for="your_pass"><i class="zmdi zmdi-lock"></i></label>
                <input type="password" name="password" id="password" required="_required"
placeholder="Password"/>
              </div>

              <div class="form-group form-button">
                <input type="submit" name="submit" id="submit" class="form-submit" value="Log in"/>
              </div>
            </form>
            <div class="social-login">
              <span class="social-label">Or login with</span>
              <ul class="socials">
                <li><a href="#"><i class="display-flex-center zmdi zmdi-facebook"></i></a></li>
                <li><a href="#"><i class="display-flex-center zmdi zmdi-twitter"></i></a></li>
                <li><a href="#"><i class="display-flex-center zmdi zmdi-google"></i></a></li>
              </ul>
            </div>
          </div>
        </div>
      </div>
```

```html
            </section>

        </div>

        <!-- JS -->
        <script src="vendor/jquery/jquery.min.js"></script>
        <script src="js/main.js"></script>
</body><!-- This templates was made by Colorlib (https://colorlib.com) -->
</html>
```

Add Item Data Code

```php
    <?php
    session_start();

    if (!isset($_SESSION['username'])) {
            $_SESSION['msg'] = "You must log in first";
            header('location: login.php');
    }
    if (isset($_GET['logout'])) {
            session_destroy();
            unset($_SESSION['username']);
            header("location: login.php");
    }
?>
<?php


// initializing variables
$item_name = "";
$item_price  = "";


// connect to the database
$db = mysqli_connect('localhost', 'root', '', 'inventorymanagement');
if (mysqli_connect_errno())
    {
    echo "Failed to connect to MySQL: " . mysqli_connect_error();
    }

// Add item
if (isset($_POST['add'])) {
  // receive all input values from the form
  echo "connect";
  $item_name=mysqli_real_escape_string($db, $_POST['product_name']);
  $item_price=mysqli_real_escape_string($db, $_POST['price']);
  $quant=mysqli_real_escape_string($db, $_POST['quant']);

    $query = "INSERT INTO product (product_name,price,quantity)
                        VALUES('$item_name','$item_price','$quant')";
    if(mysqli_query($db, $query))
    {
    echo "<script>alert('Successfully stored');</script>";
```

```php
    }
    else{
       echo"<script>alert('Somthing wrong!!!');</script>";
    }

          header('location: table.php');

}
?>
<!-->

<!DOCTYPE html>
<html>
<head>
        <title>Add Item</title>
        <link rel="stylesheet" type="text/css" href="style.css">
        <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0-
alpha.6/css/bootstrap.min.css" integrity="sha384-
rwoIResjU2yc3z8GV/NPeZWAv56rSmLldC3R/AZzGRnGxQQKnKkoFVhFQhNUwEyJ"
crossorigin="anonymous">
</head>
<body>
<form method="POST" class="form-inline" action="additem.php">
  <div class="form-group">
    <label for="name">Product Name</label>
    <input type="text" class="form-control" name="product_name">

  </div>
  <div class="form-group">
    <label for="name">Price</label>
    <input type="text" class="form-control" name="price">
  </div>
  <div>
      <label for="name">Quantity</label>
      <input type="number" name="quant" id="quant" min="1" max="">
    </div>
  <button type="submit" class="btn btn-default" name="add">Add item</button>
</form>

<div>
<a href="table.php">Home</a>
</div>
</body>
</html>
<!-->
```

Screenshot

Process Evaluation

Present System Weaknesses

A Centralized Repository for asset information does not presently exist. Inventory Management is presently being performed by many various groups (i.e., mainframe, communications, data network, etc.) and a consolidation of these databases into a Centralized Inventory Repository should be planned.

When migrating to a centralized repository, automated tools and interfaces should be developed, so that any acquisition, redeployment, or termination of assets will have to be performed through the automated system. This will reduce the effort presently performed by personnel and guaranty the accuracy of the Inventory repository.

Recommendations for Improvement

Create Centralized Repository of Inventory information.

Utilize Automated Tools and a Front-end to the Inventory Repository.

Integrate the Inventory Repository with the everyday asset functions performed by personnel, such as:

Asset
Acquisition,
Asset
Redeployment,
Asset
Termination,
Lease and Contract
Maintenance, Volume
Purchase Agreements,
etc.

CONCLUSION

➤ The system was mainly designed to reduce the manual work of updating and tracking and also make it easier for the user.

➤ It also provides flexible and powerful reports regading cutomer details, issue details and stock details.

➤ Thus inventory system was implemented successfully.

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