



MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

IT PROJECT REPORT ON

Asset Management System

SUBMITTED TO

Department of Computer Science & Engineering

By

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7th Semester CSE-A

Introduction

An Asset Management System (AMS) is crucial for a smooth and efficient functioning of any organization. On one hand, it helps in the equitable resource distribution and planning by the HR representatives, and secondly, it helps employees to request for any resource, check its availability, and keep track of their own procured items and due dates.

Absence of such a system might give rise to internal conflicts within the organization, poor planning at the management levels, and other entailing problems.

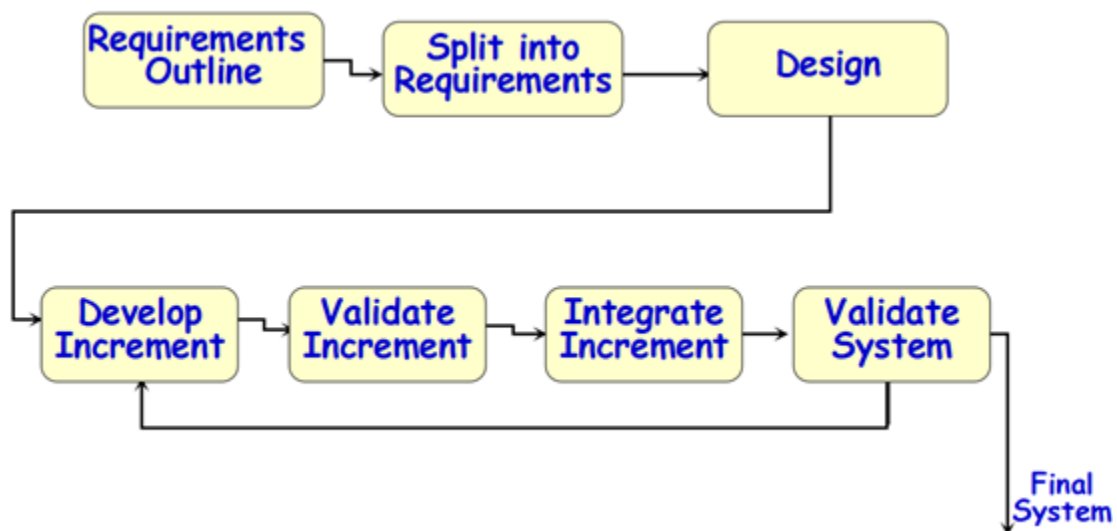
ASP.NET is a web development platform, which provides a programming model, a comprehensive software infrastructure and various services required to build up robust web applications for PC, as well as mobile devices. For our final project using ASP.NET, we were assigned to make a Asset Management System. We have made the AMS according to given problem specifications, and have used web controls, master pages, themes, cookies, sessions, validation controls, grid views, query strings, wherever it seemed fit.

SDLC Used

In development of any software, planning out each intermediate step is of utmost importance. These steps include processes like gathering and analysis of requirements, logical design, physical design, etc.

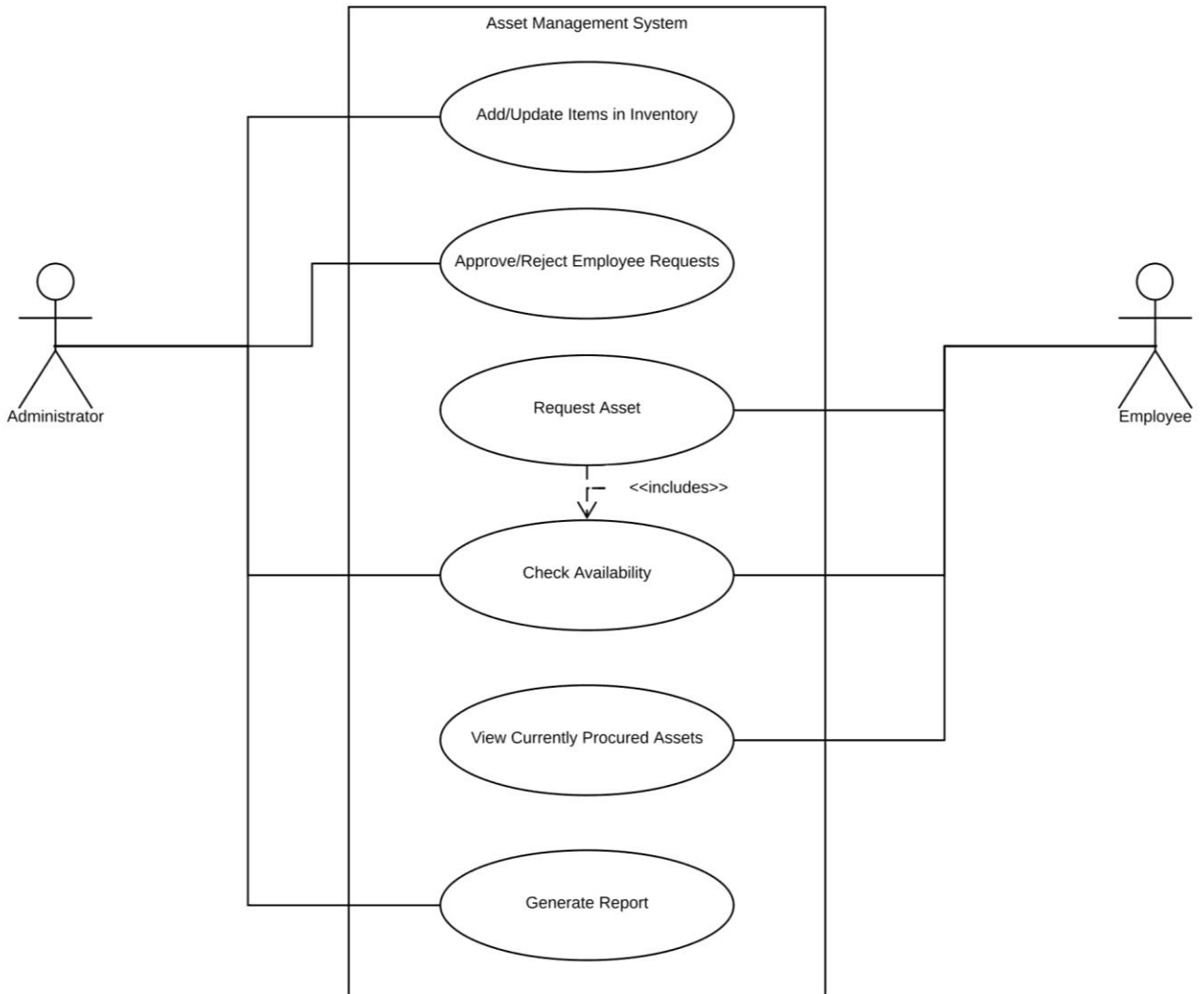
Writing code is just one aspect which actually takes the least amount of time in a software project. Efficient software projects follow a certain Software Development Life Cycle model (SDLC). There are many different models devised, each with its own application merits and demerits. Adhering to any such model does not guarantee, yet can assure to relatively high degree that the produced software is of good quality, is tested properly and well documented with manuals and other necessary documents.

The life cycle model followed in this project is the ***Incremental Life Cycle Model***. The Incremental model uses many iterations to develop the software, adding or improving upon the present functionality in each iteration. Each iteration could be thought of as a separate project in itself with its own documentation and life cycle. The first iteration is aimed at developing core functionality. Each successive increment adds more functionality or modifies those already present according to the requirements. The final increment is the finished software product.

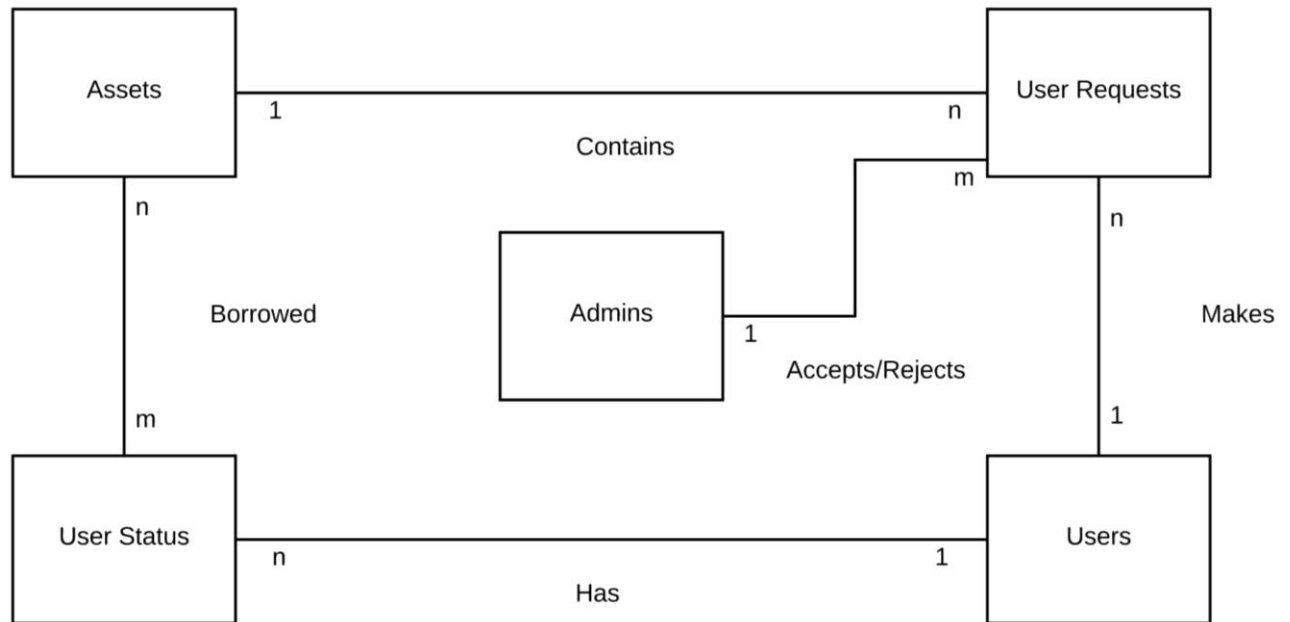


UML Diagrams

Use Case Diagram




Class Diagram



Results and Screenshots

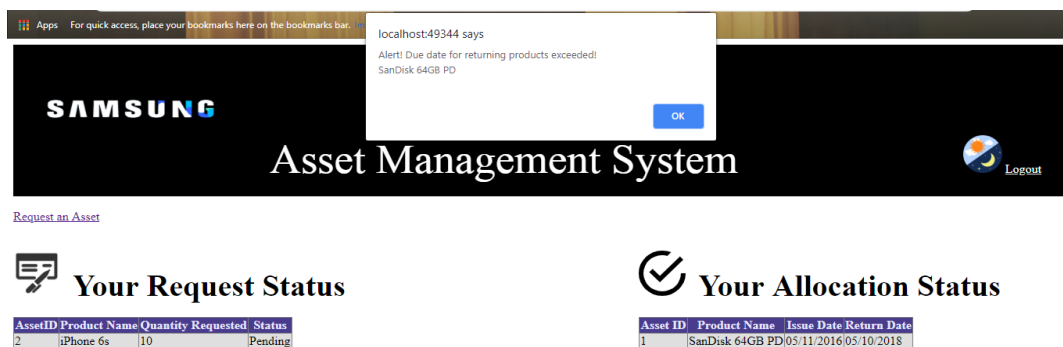
While developing the website, we maintained a uniform look and feel throughout, by using master pages, content pages, and themes.

1. LoginPage.aspx



The login page presents separate login for user and admin.

2. UserDashboard.aspx




AssetID	Product Name	Quantity Requested	Status
2	iPhone 6s	10	Pending

Asset ID	Product Name	Issue Date	Return Date
1	SanDisk 64GB PD	05/11/2016	05/10/2018

The user dashboard allows a user to view his/her currently procured assets and their due dates, requested assets and their status, and also provides an option to request for another asset.

3. RequestAsset.aspx

SAMSUNG
Asset Management System

Company Inventory

AssetID	ProductName	Allocated	Total
1	SanDisk 64GB PD	10	150
2	iPhone 6s	10	100
3	MacBook Pro	12	100
4	iPhone Xs	0	200
5	HP Probook g2	20	100
6	Dell XPS 13	0	1000
7	MSI Laptop	0	100

Enter Request Details:
Select a Resource
Select Quantity Required

Activate Windows
Go to PC settings to activate Windows.

Users can request for assets by looking at the company inventory for available products, and also view product details by clicking at the product names hyperlinks.

4. ProductDetails.aspx

SAMSUNG
Asset Management System

Product Description: 16 GB RAM, 256 GB SSD, 1 TB HDD, GTX 1070

Users can know the product specifications before requesting for a certain asset.

5. AdminDashboard.aspx

SAMSUNG
Asset Management System
 Logout

[Register a New Admin](#)


Generate Report

**Inventory Updation**
[Asset Insert](#)
[Asset Update](#)

**Notifications**
You have Pending Requests

This page shows all utilities that can be performed by the admin, and any pending request notifications.

6. Report.aspx

SAMSUNG
Asset Management System
 Logout

Allocation Report

Product Report
SanDisk 64GB PD ▾

ProductName	SanDisk 64GB PD
Total	150
Allocated	10
Remaining	140

Allocated	UserName
10	Name : Diptark Bose Issue Date : 05/11/2016 Return Date : 05/10/2018

Customer Report
Ketan Todi ▾
Items Procured by Ketan Todi


Product Name	Quantity Requested	Remaining
SanDisk 64GB PD	15	140

Activate Windows
Go to PC settings to activate Windows.

Admin can generate reports based on various search parameters (product/customer based reports)

7. AssetInsert.aspx

Asset Management System

 Logout

Current Inventory

Product Name	Total Quantity	Allocated Quantity
SanDisk 64GB PD	150	10
iPhone 6s	100	10
MacBook Pro	100	12
iPhone Xs	200	0
HP Probook g2	100	20
Dell XPS 13	1000	0
MSI Laptop	100	0

Enter details for new Asset

Name

Total Quantity

Short Description

[Go Back to Home](#)


Activate Windows
Go to PC settings to activate Windows.

Admin can use this page to add items to inventory.

8. AssetUpdate.aspx

SAMSUNG

Asset Management System

 Logout

Current Inventory

Product Name	Total Quantity	Allocated	
SanDisk 64GB PD	<input type="text" value="150"/>	10	Update Cancel
iPhone 6s	100	10	Edit Delete
MacBook Pro	100	12	Edit Delete
iPhone Xs	200	0	Edit Delete
HP Probook g2	100	20	Edit Delete
Dell XPS 13	1000	0	Edit Delete
MSI Laptop	100	0	Edit Delete

[Go Back to Home](#)

Admins can also update current inventory by updating quantities or deleting any asset.

9. PendingRequests.aspx



Pending Requests

User ID	User Name	Asset ID	Product Name	Quantity Requested	Accept/Reject	
1	Diptark Bose	2	iPhone 6s	10	Accept	Reject
2	Ketan Todi	1	SanDisk 64GB PD	15	Accept	Reject
5	Ankur Gohit	2	iPhone 6s	10	Accept	Reject
5	Ankur Gohit	4	iPhone Xs	45	Accept	Reject
5	Ankur Gohit	6	Dell XPS 13	13	Accept	Reject

[Go Back to Home](#)

Admins can accept or reject pending requests on the basis of requesting users, what they have requested for, and the requested quantities.

10. AdminRegistration.aspx



New Admin Registration

Name

Password

[Register](#)

[Go to Login Page](#)

An admin can also add other people as admins.

AdminDashboard.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Data.SqlClient;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

public partial class _Default : System.Web.UI.Page
{
    protected void Page_PreInit(object sender, EventArgs e)
    {
        HttpCookie cookie = Request.Cookies["Themes"];
        if (cookie == null)
        {
            Page.Theme = "Day";
        }
        else
        {
            Page.Theme = cookie["Theme"];
        }
    }

    protected void Page_Load(object sender, EventArgs e)
    {
        using (SqlConnection con = new SqlConnection())
        {
            con.ConnectionString = @"Data Source=(localdb)\mssqllocaldb;Initial Catalog=Assets;Integrated Security=True;Pooling=False";
            using (SqlCommand cmd = new SqlCommand())
            {
                cmd.Connection = con;
                cmd.CommandText = "SELECT * FROM UserRequests";
                con.Open();
                using (SqlDataReader reader = cmd.ExecuteReader())
                {
                    if (!reader.Read())
                    {
                        Button1.Visible = false;
                    }
                }
            }
        }
    }

    protected void Button1_Click(object sender, EventArgs e)
    {
        Response.Redirect("PendingRequests.aspx");
    }

    protected void Button2_Click(object sender, EventArgs e)
    {
        Response.Redirect("Report.aspx");
    }
}
```

AdminRegistration.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Data.SqlClient;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

public partial class _Default : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {

    }
    protected void Page_PreInit(object sender, EventArgs e)
    {
        HttpCookie cookie = Request.Cookies["Themes"];
        if (cookie == null)
        {
            Page.Theme = "Day";
        }
        else
        {
            Page.Theme = cookie["Theme"];
        }
    }
    protected void Button1_Click(object sender, EventArgs e)
    {
        using (SqlConnection con = new SqlConnection())
        {
            con.ConnectionString = @"Data Source=(localdb)\mssqllocaldb;Initial Catalog=Assets;Integrated Security=True;Pooling=False";
            using (SqlCommand com = new SqlCommand())
            {
                com.Connection = con;
                com.CommandText = "INSERT INTO Admins(AdminName, Password) VALUES (@u, @p)";
;
                com.Parameters.AddWithValue("@u", Username.Text);
                com.Parameters.AddWithValue("@p", Password.Text);
                con.Open();
                com.ExecuteNonQuery();
                com.CommandText = "SELECT * FROM Admins WHERE AdminName=@u";
                using (SqlDataReader reader = com.ExecuteReader())
                {
                    if (reader.Read())
                    {
                        Label1.Text = "Your Admin ID is: " + reader["ID"] + ". Please remember this User ID for future use.";
                    }
                }
            }
        }
    }
}
```

AssetInsert.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Data.SqlClient;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

public partial class _Default : System.Web.UI.Page
{
    protected void Page_PreInit(object sender, EventArgs e)
    {
        HttpCookie cookie = Request.Cookies["Themes"];
        if (cookie == null)
        {
            Page.Theme = "Day";
        }
        else
        {
            Page.Theme = cookie["Theme"];
        }
    }

    protected void Page_Load(object sender, EventArgs e)
    {
    }

    protected void Button1_Click(object sender, EventArgs e)
    {
        using (SqlConnection con = new SqlConnection())
        {
            con.ConnectionString = @"Data Source=(localdb)\mssqllocaldb;Initial Catalog=Assets;Integrated Security=True;Pooling=False";
            using (SqlCommand cmd = new SqlCommand())
            {
                cmd.Connection = con;
                cmd.CommandText = "SELECT * FROM Assets WHERE ProductName=@pname";
                cmd.Parameters.AddWithValue("pname", ProductName.Text);
                con.Open();
                using (SqlDataReader reader = cmd.ExecuteReader())
                {
                    if (reader.HasRows)
                    {
                        Error.Text = "Item already exists in inventory.";
                        Error.Visible = true;
                    }
                    else
                    {
                        SqlDataSource1.Insert();
                        ProductName.Text = "";
                        Total.Text = "";
                        Description.Text = "";
                    }
                }
            }
        }
    }
}
```

AssetUpdate.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

public partial class _Default : System.Web.UI.Page
{
    protected void Page_PreInit(object sender, EventArgs e)
    {
        HttpCookie cookie = Request.Cookies["Themes"];
        if (cookie == null)
        {
            Page.Theme = "Day";
        }
        else
        {
            Page.Theme = cookie["Theme"];
        }
    }

    protected void Page_Load(object sender, EventArgs e)
    {
    }
}
```

LoginPage.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Data.SqlClient;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

public partial class _Default : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
        HyperLink h = (HyperLink)Master.FindControl("Hyperlink1");
        h.Visible = false;
    }
    protected void Page_PreInit(object sender, EventArgs e)
    {
        HttpCookie cookie = Request.Cookies["Themes"];
        if (cookie == null)
        {
            Page.Theme = "Day";
        }
        else
        {
            Page.Theme = cookie["Theme"];
        }
    }
    protected void Button1_Click(object sender, EventArgs e)
    {
        using (SqlConnection con = new SqlConnection())
        {
            con.ConnectionString = @"Data Source=(localdb)\mssqllocaldb;Initial Catalog=Ass
ets;Integrated Security=True;Pooling=False";
            using (SqlCommand com = new SqlCommand())
            {
                com.Connection = con;
                com.CommandText = "SELECT * FROM Users WHERE UserID=@userID";
                com.Parameters.AddWithValue("userID", UserID.Text);
                con.Open();
                using (SqlDataReader reader = com.ExecuteReader())
                {
                    if (reader.Read())
                    {
                        if (reader.HasRows.ToString() == "false")
                        {
                            Error.Text = "Wrong UserID";
                        }
                        else
                        {
                            if (reader["Password"].ToString() == Password.Text)
                            {
                                Session["UserID"] = UserID.Text;
                                Response.Redirect("UserDashboard.aspx");
                            }
                            else
                            {
                                Error.Text = "Wrong Password";
                            }
                        }
                    }
                }
            }
        }
    }
}
```

LoginPage.aspx.cs

```
protected void Button2_Click(object sender, EventArgs e)
{
    using (SqlConnection con = new SqlConnection())
    {
        con.ConnectionString = @"Data Source=(localdb)\mssqllocaldb;Initial Catalog=Ass
ets;Integrated Security=True;Pooling=False";
        using (SqlCommand com = new SqlCommand())
        {
            com.Connection = con;
            com.CommandText = "SELECT * FROM Admins WHERE ID=@AdminID";
            com.Parameters.AddWithValue("AdminID", AdminID.Text);
            con.Open();
            using (SqlDataReader reader = com.ExecuteReader())
            {
                if (reader.Read())
                {
                    if (reader.HasRows.ToString() == "false")
                    {
                        Label3.Text = "Wrong UserID";
                    }
                    else
                    {
                        if (reader["Password"].ToString() == AdminPass.Text)
                        {
                            Session["AdminID"] = UserID.Text;
                            Response.Redirect("AdminDashboard.aspx");
                        }
                        else
                        {
                            Label3.Text = "Wrong Password";
                        }
                    }
                }
            }
        }
    }
}
```


MasterPage.master.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

public partial class MasterPage : System.Web.UI.MasterPage
{
    protected void Page_Load(object sender, EventArgs e)
    {

    }

    protected void ImageButton1_Click(object sender, ImageClickEventArgs e)
    {
        HttpCookie cookie = Request.Cookies["Themes"];
        if(cookie==null)
        {
            cookie = new HttpCookie("Themes");
            cookie["Theme"] = "Day";
            cookie.Expires = DateTime.Today.AddDays(10);
            Response.Cookies.Add(cookie);
            Label1.Text = "Default Cookie Day";
        }
        else
        {
            if (cookie["Theme"].ToString() == "Night")
            {
                cookie["Theme"] = "Day";
                Label1.Text = "Set Cookie Day";
            }
            else
            {
                cookie["Theme"] = "Night";
                Label1.Text = "Set Cookie Night";
            }
            cookie.Expires = DateTime.Today.AddDays(10);
            Response.Cookies.Add(cookie);
        }
        Response.Redirect(Request.FilePath);
    }
}
```

PendingRequest.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Data.SqlClient;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

public partial class _Default : System.Web.UI.Page
{
    protected void Page_PreInit(object sender, EventArgs e)
    {
        HttpCookie cookie = Request.Cookies["Themes"];
        if (cookie == null)
        {
            Page.Theme = "Day";
        }
        else
        {
            Page.Theme = cookie["Theme"];
        }
    }

    protected void Page_Load(object sender, EventArgs e)
    {
    }

    protected void Accept_Click(object sender, EventArgs e)
    {
        Button btn = (Button)sender;
        GridViewRow row = (GridViewRow)btn.NamingContainer;
        try
        {
            using (SqlConnection con = new SqlConnection())
            {
                con.ConnectionString = @"Data Source=(localdb)\mssqllocaldb;Initial Catalog
=Assets;Integrated Security=True;Pooling=False";
                using (SqlCommand cmd = new SqlCommand())
                {
                    cmd.Connection = con;
                    int quantity_requested = 0;

                    cmd.CommandText = "SELECT * FROM UserRequests WHERE UserID=@user AND As
setID=@asset";

                    cmd.Parameters.AddWithValue("@user", row.Cells[0].Text);
                    cmd.Parameters.AddWithValue("@asset", row.Cells[2].Text);
                    con.Open();

                    using (SqlDataReader reader = cmd.ExecuteReader())
                    {
                        if (reader.Read())
                        {
                            int.TryParse(reader["QuantityRequested"].ToString(), out quanti
ty_requested);
                        }
                    }

                    cmd.CommandText = "UPDATE UserRequests SET Status=@decision WHERE (User
ID=@user AND AssetID=@asset)";
                    cmd.Parameters.AddWithValue("@decision", "Accepted");
                    cmd.ExecuteNonQuery();

                    cmd.CommandText = "UPDATE Assets SET Allocated = Allocated+@quant WHERE
AssetID=@asset";
```

PendingRequest.aspx.cs

```
        cmd.Parameters.AddWithValue("@quant", quantity_requested);
        cmd.ExecuteNonQuery();

        cmd.CommandText = "INSERT INTO UserStatus (UserID, AssetID, CurrentDate
, ReturnDate) VALUES (@user, @asset, @curr, @ret)";
        cmd.Parameters.AddWithValue("@curr", DateTime.Now);
        cmd.Parameters.AddWithValue("@ret", DateTime.Now.AddYears(2));
        cmd.ExecuteNonQuery();

        Response.Redirect("PendingRequests.aspx");
    }
}
}
catch (Exception err)
{
    Label1.Text += err.Message;
}
}

protected void Reject_Click(object sender, EventArgs e)
{
    Button btn = (Button)sender;
    GridViewRow row = (GridViewRow)btn.NamingContainer;
    try
    {
        using (SqlConnection con = new SqlConnection())
        {
            con.ConnectionString = @"Data Source=(localdb)\mssqllocaldb;Initial Catalog
=Assets;Integrated Security=True;Pooling=False";
            using (SqlCommand cmd = new SqlCommand())
            {
                cmd.Connection = con;
                int quantity_requested = 0;

                cmd.CommandText = "SELECT * FROM UserRequests WHERE UserID=@user AND As
setID=@asset";

                cmd.Parameters.AddWithValue("@user", row.Cells[0].Text);
                cmd.Parameters.AddWithValue("@asset", row.Cells[2].Text);
                con.Open();

                using (SqlDataReader reader = cmd.ExecuteReader())
                {
                    if (reader.Read())
                    {
                        int.TryParse(reader["QuantityRequested"].ToString(), out quanti
ty_requested);
                    }
                }

                cmd.CommandText = "UPDATE UserRequests SET Status=@decision WHERE (User
ID=@user AND AssetID=@asset)";
                cmd.Parameters.AddWithValue("@decision", "Rejected");
                cmd.ExecuteNonQuery();

                Response.Redirect("PendingRequests.aspx");
            }
        }
    }
    catch (Exception err)
    {
        Label1.Text += err.Message;
    }
}
}
```

ProductDetails.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Data.SqlClient;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

public partial class _Default : System.Web.UI.Page
{
    protected void Page_PreInit(object sender, EventArgs e)
    {
        HttpCookie cookie = Request.Cookies["Themes"];
        if (cookie == null)
        {
            Page.Theme = "Day";
        }
        else
        {
            Page.Theme = cookie["Theme"];
        }
    }

    protected void Page_Load(object sender, EventArgs e)
    {
        using (SqlConnection con = new SqlConnection())
        {
            con.ConnectionString = @"Data Source=(localdb)\mssqllocaldb;Initial Catalog=Assets;Integrated Security=True;Pooling=False";
            using (SqlCommand cmd = new SqlCommand())
            {
                cmd.Connection = con;
                cmd.CommandText = "SELECT * FROM Assets WHERE AssetID=@asset";
                cmd.Parameters.AddWithValue("@asset", Request.QueryString["AssetID"]);

                con.Open();
                using (SqlDataReader reader = cmd.ExecuteReader())
                {
                    if (reader.Read())
                    {
                        Label1.Text = reader["Description"].ToString();
                    }
                }
            }
        }
    }
}
```

Report.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
using System.Data;
using System.Data.Sql;
using System.Data.SqlClient;
using System.Web.Configuration;

public partial class _Default : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {

    }
    protected void Page_PreInit(object sender, EventArgs e)
    {
        HttpCookie cookie = Request.Cookies["Themes"];
        if (cookie == null)
        {
            Page.Theme = "Day";
        }
        else
        {
            Page.Theme = cookie["Theme"];
        }
    }

    protected void Button1_Click(object sender, EventArgs e)
    {
        //Label1.Text = DropDownList2.SelectedItem.Text;
    }
}
```

RequestAsset.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Data.SqlClient;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

public partial class _Default : System.Web.UI.Page
{
    protected void Page_PreInit(object sender, EventArgs e)
    {
        HttpCookie cookie = Request.Cookies["Themes"];
        if (cookie == null)
        {
            Page.Theme = "Day";
        }
        else
        {
            Page.Theme = cookie["Theme"];
        }
    }

    //Dictionary<string, int> dict;
    protected void Page_Load(object sender, EventArgs e)
    {
        if (!IsPostBack)
        {
            //dict = new Dictionary<string, int>();
            using (SqlConnection con = new SqlConnection())
            {
                con.ConnectionString = @"Data Source=(localdb)\mssqllocaldb;Initial Catalog=Assets;Integrated Security=True;Pooling=False";
                using (SqlCommand cmd = new SqlCommand())
                {
                    cmd.Connection = con;
                    cmd.CommandText = "SELECT * FROM Assets";
                    con.Open();
                    using (SqlDataReader reader = cmd.ExecuteReader())
                    {
                        while (reader.Read())
                        {
                            ListItem newItem = new ListItem();
                            newItem.Text = reader["ProductName"].ToString();
                            int total, allocated;
                            int.TryParse(reader["Total"].ToString(), out total);
                            int.TryParse(reader["Allocated"].ToString(), out allocated);
                            //newItem.Value = (total - allocated).ToString();
                            newItem.Value = reader["AssetID"].ToString();
                            DropDownList2.Items.Add(newItem);
                        }
                    }
                }
            }
        }
    }

    protected void Button1_Click(object sender, EventArgs e)
    {
        // DummyLabel.Text = DropDownList2.SelectedItem.ToString();

        int req, available=0, total, allocated;
        bool check = int.TryParse(TextBox1.Text, out req);
        using (SqlConnection con = new SqlConnection())
        {
            con.ConnectionString = @"Data Source=(localdb)\mssqllocaldb;Initial Catalog=Assets;Integrated Security=True;Pooling=False";
            using (SqlCommand cmd = new SqlCommand())
```

RequestAsset.aspx.cs

```
{
    cmd.Connection = con;
    cmd.CommandText = "SELECT * FROM Assets";
    con.Open();
    using (SqlDataReader reader = cmd.ExecuteReader())
    {
        while (reader.Read())
        {
            if (reader["ProductName"].ToString() == DropDownList2.SelectedItem.
Text)
            {
                int.TryParse(reader["Total"].ToString(), out total);
                int.TryParse(reader["Allocated"].ToString(), out allocated);
                available = total - allocated;
            }
        }
    }
}
if (check)
{
    if (available >= req)
    {
        using (SqlConnection con = new SqlConnection())
        {
            con.ConnectionString = @"Data Source=(localdb)\mssqllocaldb;Initial Cat
alog=Assets;Integrated Security=True;Pooling=False";
            using (SqlCommand cmd = new SqlCommand())
            {
                cmd.Connection = con;
                cmd.CommandText = "SELECT * FROM UserRequests";
                con.Open();
                using (SqlDataReader reader = cmd.ExecuteReader())
                {
                    while (reader.Read())
                    {
                        if (reader["AssetID"].ToString() == DropDownList2.SelectedV
alue)
                        {
                            Label2.Text = "You have already requested for this prod
uct!";
                        }
                    }
                }

                cmd.CommandText = "INSERT INTO UserRequests (UserID, AssetID, Quant
ityRequested, Status) VALUES (@u, @a, @q, @s)";
                cmd.Parameters.AddWithValue("@u", Session["UserID"].ToString());
                //cmd.Parameters.AddWithValue("@u", 5);
                cmd.Parameters.AddWithValue("@a", DropDownList2.SelectedValue);
                cmd.Parameters.AddWithValue("@q", req);
                cmd.Parameters.AddWithValue("@s", "Pending");

                cmd.ExecuteNonQuery();
            }
        }
        Label2.Text = "Request Submitted Succesfully!";
        TextBox1.Text = "";
        DropDownList2.SelectedIndex = -1;
    }
    else
    {
        Label2.Text = "Requested quantity exceeds available quantity. Please check
the availability from the table above.";
    }
    else
    {
        Label2.Text += "Please specify a valid integer.";
    }
}
```

RequestAsset.aspx.cs

}

UserDashboard.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Data.SqlClient;
using System.Linq;
using System.Text;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

public partial class _Default : System.Web.UI.Page
{
    protected void Page_PreInit(object sender, EventArgs e)
    {
        HttpCookie cookie = Request.Cookies["Themes"];
        if (cookie == null)
        {
            Page.Theme = "Day";
        }
        else
        {
            Page.Theme = cookie["Theme"];
        }
    }

    protected void Page_Load(object sender, EventArgs e)
    {
        StringBuilder sb = new StringBuilder();
        int ctr = 0;
        sb.Append("Alert! Due date for returning products exceeded!");
        sb.Append("\n");
        using (SqlConnection con = new SqlConnection())
        {
            con.ConnectionString = @"Data Source=(localdb)\mssqllocaldb;Initial Catalog=Assets;Integrated Security=True;Pooling=False";
            using (SqlCommand com = new SqlCommand())
            {
                com.Connection = con;
                com.CommandText = "SELECT * FROM UserStatus, Assets WHERE UserID=@userID AND UserStatus.AssetID=Assets.AssetID";
                com.Parameters.AddWithValue("userID", Session["UserID"].ToString());
                con.Open();
                using (SqlDataReader reader = com.ExecuteReader())
                {
                    while (reader.Read())
                    {
                        DateTime returnDate = (DateTime)reader["ReturnDate"];
                        DateTime currentDate = DateTime.Today;
                        TimeSpan difference = currentDate - returnDate;
                        if (difference.TotalDays >= 0)
                        {
                            sb.Append(reader["ProductName"]);
                            sb.Append("\n");
                            ctr++;
                        }
                    }
                }
            }
        }
        if (ctr > 0)
        {
            ClientScript.RegisterStartupScript(this.GetType(), "alert", "alert('" + sb.ToString() + "');", true);
        }
    }
}
```

UserReg.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Data.SqlClient;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

public partial class _Default : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
        HyperLink h = (HyperLink)Master.FindControl("Hyperlink1");
        h.Visible = false;
    }
    protected void Page_PreInit(object sender, EventArgs e)
    {
        HttpCookie cookie = Request.Cookies["Themes"];
        if (cookie == null)
        {
            Page.Theme = "Day";
        }
        else
        {
            Page.Theme = cookie["Theme"];
        }
    }
    protected void Button1_Click(object sender, EventArgs e)
    {
        using (SqlConnection con = new SqlConnection())
        {
            con.ConnectionString = @"Data Source=(localdb)\mssqllocaldb;Initial Catalog=Assets;Integrated Security=True;Pooling=False";
            using (SqlCommand com = new SqlCommand())
            {
                com.Connection = con;
                com.CommandText = "INSERT INTO Users (Username, Password) VALUES (@u, @p)";
                com.Parameters.AddWithValue("@u", Username.Text);
                com.Parameters.AddWithValue("@p", Password.Text);
                con.Open();
                com.ExecuteNonQuery();
                com.CommandText = "SELECT * FROM Users WHERE Username=@u";
                using (SqlDataReader reader = com.ExecuteReader())
                {
                    if (reader.Read())
                    {
                        Label1.Text = "Your User ID is: " + reader["UserID"] + ". Please remember this User ID for future use.";
                    }
                }
            }
        }
    }
}
```

Conclusion

The Asset Management System solves a lot of problems and provides a strong foundation for future developments. The .NET framework provided a very wholesome, integrated development environment that was feature rich and easy to work with.

The implemented functionalities can be improved and more features can be added. Some future improvements are (not limited to) the following:

1. Allow the user to retain some of the assets when not in use instead of returning all assets at once.
2. Provide administrator with the authority to block a user if they find any discrepancy.
3. Maintain a user credibility score to help in allocating assets on the basis of his punctuality and condition of the previously leased assets.
4. Impose a fine on the user for exceeding the return date.
5. Provide user with an opportunity of giving the feedback and also ask the admin to add product currently not on lease.