INVENTORY MANAGEMENT SYSTEM FOR RETAILERS

Domain: Cloud Application Development

Team id: PNT2022TMID42092

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CREATE FLASK PROJECT

PHYTHON

- **APPLICATION.PY**

From flask import Flask, render_template, jsonify, request,redirect,flash, Markup,url_for, session

```
From models import *
From datetime import date

Folder_name="static"

App = Flask(__name__)
App.config["SQLALCHEMY_DATABASE_URI"] =
"postgresql://postgres:password@localhost:5432/inventoryDB"
App.config["SQLALCHEMY_TRACK_MODIFICATIONS"] = False
App.secret_key = b'hkahs3720/'
Db.init_app(app)


@app.route("/")
Def index():
  Return render_template("index.html")

@app.route("/logout")
Def logout():
  Return render_template("index.html")

@app.route("/dashboard", methods=["POST"])
Def dashboard():
```

```
  Unam = request.form.get("username")
  Pwd = request.form.get("password")

  Ulist=user_tbl.query.filter_by(userName=unam).first()
  Session['username']= unam
  Session['userid']= ulist.userID
  Session['utype']= ulist.userType
  If ulist.pwd==pwd:
    # uid=ulist.userid
    Return render_template("dashboard.html")
  Else:
    Return render_template("index.html")


@app.route("/saveItemCategory", methods=["POST"])
Def saveItemCategory():
  Idesc = request.form.get("ItemCategoryDesc")
  ItemCategor = ItemCategory(ItemCatDesc=idesc)
  Db.session.add(ItemCategor)
  Db.session.commit()
  Text=idesc+'record Saved Successfully'
  Return render_template("dashboard.html", text=text)

@app.route("/ItemsCategory")
Def ItemsCategory():
  catList=ItemCategory.query.all()
  tabl='''<div class="form-group">
      <table class="table table-bordered border-success" ><TH>
      <TD>Item Category ID</TD>
      <TD>Item Category Name</TD></TH>'''
  For itm in catList:
    Tabl=tabl+"<TR
><td></td><TD>"+str(itm.ItemCatID)+"</TD><TD>"+itm.ItemCatDesc+"</TD></TR>"
  Tabl=tabl+"</TABLE></div>"
  Strg='''<form action="/saveItemCategory" method="post">
  <div class="text-center"><h5>Add Item Category</h5></div><hr>
<div class="mb-3">
 <label for="ItemCategoryDesc" class="form-label">Item Category Description</label>
 <input type="text" class="form-control" name="ItemCategoryDesc" placeholder="Enter
Item Category Name">
</div>
<div class="col-12">
   <button type="submit" class="btn  btn-success mb-3">Save Item Category</button>
</div>
```

```
</FORM>
<BR>
'''+tabl
    Text= Markup(strg)
    Return render_template("dashboard.html", text=text)

@app.route("/saveItem", methods=["POST"])
Def saveItem():
    icatID = int(request.form.get("ItemCatID"))
    itmNam = request.form.get("ItemName")
    AvAmt = int(request.form.get("AvailAmt"))
    ItemMas = ItemMaster(ItemCatID=icatID, ItemDesc=itmNam,AvailAmt=AvAmt )
    Db.session.add(ItemMas)
    Db.session.commit()
    Text=itmNam+' record Saved Successfully'
    Return render_template("dashboard.html", text=text)

@app.route("/Items")
Def Items():
    itmList= ItemMaster.query.all()
    tabl='''<div class="form-group">
        <table class="table table-bordered border-success" ><TH>
        <TD>Item ID</TD>
        <TD>Item Category</TD>
        <TD>Item Name</TD></TH>'''
    For itm in itmList:
        Tabl=tabl+"<TR
><td></td><TD>"+str(itm.ItemID)+"</TD><TD>"+itm.ItemDesc+"</TD><TD>"+itm.itemCat.Ite
mCatDesc+"</TD></TR>"
    Tabl=tabl+"</TABLE></div>"
    catList= ItemCategory.query.all()
    dd='''<div class="form-group">
        <select class="form-control" name="ItemCatID">'''
    For cat in catList:
        Dd=dd+"<option value=\""+str(cat.ItemCatID)+"\">"+cat.ItemCatDesc +"</option>"
    Dd=dd+ '''</select>
</div>'''


    Strg='''<form action="/saveItem" method="post">
<div class="text-center"><h5>Add Items</h5></div><hr>
<div class="mb-3">
  <label for="ItemCatID" class="form-label">Item Category </label>'''+dd+'''
```

```
</div>
<div class="mb-3">
  <label for="ItemName" class="form-label">Item Description</label>
  <input type="text" class="form-control" name="ItemName" placeholder="Enter Item Name">
</div>
<div class="mb-3">
  <label for="AvailAmt" class="form-label">Available Amount</label>
  <input type="text" class="form-control" name="AvailAmt" placeholder="How many Items available?">
</div>
<div class="col-12">
    <button type="submit" class="btn  btn-success mb-3">Save Item</button>
</div>
</FORM>
<BR>
'''+tabl

    Text=Markup(strg)
    Return render_template("dashboard.html", text=text)

@app.route("/UpdateItems", methods=["POST"])
Def UpdateItems():
    iID = int(request.form.get("ItemID"))
    aDate = request.form.get("AddDate")
    aQty = int(request.form.get("AddQty"))
    vName = request.form.get("VendorName")
    aItems = AddItem(AddDate=aDate, AddQty=aQty,VendorName=vName, ItemID=iID)
    upVal = ItemMaster.query.filter_by(ItemID=iID).first()
    newUnits= upVal.AvailAmt
    upVal.AvailAmt = newUnits+aQty
    db.session.add(aItems)
    db.session.commit()
    text=str(aQty)+' '+upVal.ItemDesc+' Added Successfully'
    return render_template("dashboard.html", text=text)

@app.route("/AddItems")
Def AddItems():
    itmList= ItemMaster.query.all()
    tabl='''<div class="form-group">
        <table class="table table-bordered border-success" ><TH>
        <TD>Item ID</TD>
        <TD>Item Category</TD>
```

```
        <TD>Item Name</TD>
        <TD>Items Available</TD></TH>'''
   For itm in itmList:
      Tabl=tabl+"<TR
><td></td><TD>"+str(itm.ItemID)+"</TD><TD>"+itm.ItemDesc+"</TD><TD>"+itm.itemCat.Ite
mCatDesc+"</TD><TD>"+str(itm.AvailAmt)+"</TD></TR>"
   Tabl=tabl+"</TABLE></div>"
   Dd='''<div class="form-group">
       <select class="form-control" name="ItemID">'''
   For itm in itmList:
      Dd=dd+"<option value=\""+str(itm.ItemID)+"\">"+itm.ItemDesc +"</option>"
   Dd=dd+  '''</select>
</div>'''
   Strg='''<form action="/UpdateItems" method="post">
<div class="text-center"><h5>Items Available</h5></div><hr>
<div class="mb-3">
 <label for="ItemID" class="form-label">Select Item </label>'''+dd+'''
</div>
<div class="mb-3">
 <label for="AddDate" class="form-label">Select Date</label>
 <input type="date" class="form-control" Name="AddDate" placeholder="Enter Date of
Adding Items in Inventory">
</div>
<div class="mb-3">
 <label for="AddQty" class="form-label">Items Count</label>
 <input type="text" class="form-control" name="AddQty" placeholder="Items Count">
</div>
<div class="mb-3">
 <label for="VendorName" class="form-label">Vendor Name</label>
 <input type="text" class="form-control" name="VendorName" placeholder="Vendor
Name">
</div>
<div class="col-12">
   <button type="submit" class="btn btn-success mb-3">Save Item</button>
</div>
</FORM><BR>
'''+tabl
   Text=Markup(strg)
   Return render_template("dashboard.html", text=text)


@app.route("/issUpdt/<int:tid>")
Def issUpdt(tid):
```

```
    Ilist=request_tbl.query.filter_by(reqID=tid).first()
    upVal="I"
    ilist.Status=upVal
    ilist.issueDate= date.today()
    imlist=ItemMaster.query.filter_by(ItemID=ilist.ItemID).first()
    currCnt=imlist.AvailAmt
    imlist.AvailAmt=currCnt-ilist.ReqQty
    db.session.commit()
    text="Item Issued"
    return render_template("dashboard.html", text=text)


@app.route("/itemIssue")
Def itemIssue():
    itmList= request_tbl.query.filter_by(Status=None,)
    strg='''<Form><div class="form-group">
        <table class="table table-bordered border-success" ><TH>
        <TD>Item Name</TD>
        <TD>Date of Request</TD>
        <TD>Quantity Requested</TD>
        <TD>User Name</TD>
        <TD>Issue</TD></TH>'''
    For itm in itmList:
        Strg=strg+"<TR
><td></td><TD>"+str(itm.item.ItemDesc)+"</TD><TD>"+str(itm.ReqDate)+"</TD><TD>"+str(i
tm.ReqQty)+"</TD>"
        Strg=strg+"<TD>"+str(itm.user.userName)+"</TD><TD>"
        Strg=strg+"<div class=\"col-12\"><a href="+
url_for('issUpdt',tid=itm.reqID)+">Issue</a></div></TD></TR>"
    Strg=strg+"</TABLE></div></FORM>"

    Text=Markup(strg)
    Return render_template("dashboard.html", text=text)


@app.route("/retUpdt/<int:tid>")
Def retUpdt(tid):
    Ilist=request_tbl.query.filter_by(reqID=tid).first()
    upVal="R"
    ilist.Status=upVal
    ilist.returnDate= date.today()
    imlist=ItemMaster.query.filter_by(ItemID=ilist.ItemID).first()
    currCnt=imlist.AvailAmt
    imlist.AvailAmt=currCnt+ilist.ReqQty
    db.session.commit()
    text="Item Returned"
```

```
    return render_template("dashboard.html", text=text)

@app.route("/itemReturn")
Def itemReturn():
    itmList= request_tbl.query.filter_by(Status="I",userID=session['userid'])
    strg='''<Form><div class="form-group">
        <table class="table table-bordered border-success" ><TH>
        <TD>Item Name</TD>
        <TD>Date of Issue</TD>
        <TD>Quantity Issued</TD>
        <TD>Return</TD></TH>'''
    For itm in itmList:
        Strg=strg+"<TR
><td></td><TD>"+str(itm.item.ItemDesc)+"</TD><TD>"+str(itm.issueDate)+"</TD><TD>"+str
(itm.ReqQty)+"</TD>"
        Strg=strg+"<TD><div class=\"col-12\"><a href="+
url_for('retUpdt',tid=itm.reqID)+">Return</a></div></TD></TR>"
    Strg=strg+"</TABLE></div></FORM>"

    Text=Markup(strg)
    Return render_template("dashboard.html", text=text)

@app.route("/saveRequest", methods=["POST"])
Def saveRequest():
    iID = int(request.form.get("ItemID"))
    rDate = request.form.get("reqDate")
    rQty = request.form.get("reqQuantity")
    uid = session["userid"]
    dept = request.form.get("depttName")
    rItems = request_tbl(ReqDeptt=dept, ReqDate=rDate,ItemID=iID, ReqQty=rQty, userID=uid)
    db.session.add(rItems)
    db.session.commit()
    text=str(iID)+' '+str(rQty)+' Requested Successfully'
    return render_template("dashboard.html", text=text)


@app.route("/itemRequest")
Def itemRequest():
    itmList= ItemMaster.query.all()
    dd='''<div class="form-group">
        <select class="form-control" name="ItemID">'''
    For itm in itmList:
        Dd=dd+"<option value=\""+str(itm.ItemID)+"\">"+itm.ItemDesc +"</option>"
    Dd=dd+ '''</select>
```

```
</div>'''

    itmList= request_tbl.query.filter_by(userID=session['userid'])
    tbl='''<DIV><table class="table table-bordered border-success" ><TH>
        <TD>Item Name</TD>
        <TD>Date of Request</TD>
        <TD>Date of Issue</TD>
        <TD>Quantity Issued</TD></TH>'''
    For itm in itmList:
        Tbl=tbl+"<TR
><td></td><TD>"+str(itm.item.ItemDesc)+"</TD><TD>"+str(itm.ReqDate)+"</TD><TD>"+str(i
tm.issueDate)+"</TD>"
        Tbl=tbl+"<TD>"+str(itm.ReqQty)+"</TD></TR>"
    Tbl=tbl+"</TABLE></div>"
    Strg='''<form action="/saveRequest" method="post">
<div class="text-center"><h5>Request Item</h5></div><hr>
<div class="mb-3">
  <label for="ItemID" class="form-label">Select Item </label>'''+dd+'''
</div>
<div class="mb-3">
  <label for="reqDate" class="form-label">Request Date</label>
  <input type="date" class="form-control" name="reqDate" placeholder="Select Request
Date">
</div>
<div class="mb-3">
  <label for="reqQty" class="form-label">Request Quantity</label>
  <input type="number" class="form-control" name="reqQuantity" placeholder="Items
Count">
</div>
<div class="mb-3">
  <label for="depttName" class="form-label">Department</label>
  <input type="text" class="form-control" name="depttName" placeholder="Department ">
</div>
<div class="col-12">
    <button type="submit" class="btn btn-success mb-3">Request Item</button>
</div>
</FORM><BR>
'''+tbl
    Text=Markup(strg)
    Return render_template("dashboard.html", text=text)
```

Models.py

```
Import os
```

```python
From flask import Flask
From flask_sqlalchemy import SQLAlchemy
Db = SQLAlchemy()



Class ItemCategory(db.Model):
    __tablename__="ItemsCategory"
    ItemCatID = db.Column(db.Integer, primary_key=True)
    ItemCatDesc =db.Column(db.String,nullable=False)


Class ItemMaster(db.Model):
    __tablename__="ItemMaster"
    ItemID = db.Column(db.Integer, primary_key=True)
    ItemCatID = db.Column(db.Integer,db.ForeignKey("ItemsCategory.ItemCatID"),
nullable=False)
    ItemDesc = db.Column(db.String,nullable=False)
    AvailAmt = db.Column(db.Integer,nullable=False)
    itemCat = db.relationship("ItemCategory", backref="itemCat", lazy=True)


class AddItem(db.Model):
    __tablename__="AddItems"
    transID=db.Column(db.Integer, primary_key=True)
    ItemID = db.Column(db.Integer,db.ForeignKey("ItemMaster.ItemID"), nullable=False)
    AddQty = db.Column(db.Integer, nullable=False)
    AddDate = db.Column(db.Date,nullable=False)
    VendorName = db.Column(db.String,nullable=False)



Class request_tbl(db.Model):
```

```python
    __tablename_="request_tbl"

    reqID=db.Column(db.Integer, primary_key=True)

    ReqDeptt=db.Column(db.String,nullable=False)

    ReqDate =db.Column(db.Date,nullable=False)

    ItemID = db.Column(db.Integer,db.ForeignKey("ItemMaster.ItemID"), nullable=False)

    ReqQty = db.Column(db.Integer, nullable=False)

    userID = db.Column(db.Integer,db.ForeignKey("user_tbl.userID"), nullable=False)

    Status=db.Column(db.String,nullable=False)

    issueDate=db.Column(db.Date,nullable=False)

    returnDate=db.Column(db.Date,nullable=False)

    item = db.relationship("ItemMaster", backref="item", lazy=True)

    user = db.relationship("user_tbl", backref="user", lazy=True)


class user_tbl(db.Model):

    __tablename_="user_tbl"

    userID=db.Column(db.Integer, primary_key=True)

    userName=db.Column(db.String,nullable=False)

    pwd=db.Column(db.String,nullable=False)

    userType=db.Column(db.String,nullable=False)
```

index.html

```html
<HTML>

<head>

<link href=https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta2/dist/css/bootstrap.min.css
rel="stylesheet" integrity="sha384-
BmbxuPwQa2lc/FVzBcNJ7UAyJxM6wuqIj61tLrc4wSX0szH/Ev+nYRRuWlolflfl"
crossorigin="anonymous">

<script src=https://cdn.jsdelivr.net/npm/@popperjs/core@2.6.0/dist/umd/popper.min.js
integrity="sha384-
KsvD1yqQ1/1+IA7gi3P0tyJcT3vR+NdBTt13hSJ2lnve8agRGXTTyNaBYmCR/Nwi"
crossorigin="anonymous"></script>
```

```
<script src=https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta2/dist/js/bootstrap.min.js
integrity="sha384-
nsg8ua9Haw1y0W1btsyWgBklPnCUAFLuTMS2G72MMONqmOymq585AcH49TLBQObG"
crossorigin="anonymous"></script>

</head>

<body>

<div class="row" style="height:50%; margin-top:5%; ">


        <div class="col-4" >


        </div>

        <div class="col-4" style="border-style:solid; border-color:grey; border-width:1px;box-
shadow: 10px 10px 10px grey;padding-top:10px">

        <form action="{{ url_for('dashboard')}}" method="post">

    <div class="form-group mx-sm-3 mb-2">

    <label for="username" class="sr-only">User Name</label>

    <input type="text" class="form-control" name="username" placeholder="User Name">

        </div>

        <div class="form-group mx-sm-3 mb-2">

    <label for="inputPassword2" class="sr-only">Password</label>

    <input type="password" class="form-control" name="password" placeholder="Password">

        </div>

        <button type="submit" class="btn btn-primary mb-2">Confirm identity</button>

        </form>

        </div>


<body>
```

Dashboard.html

<HTML>

<head>

<link href=https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta2/dist/css/bootstrap.min.css rel="stylesheet" integrity="sha384-BmbxuPwQa2lc/FVzBcNJ7UAyJxM6wuqIj61tLrc4wSX0szH/Ev+nYRRuWlolflfl" crossorigin="anonymous">

<script src=https://cdn.jsdelivr.net/npm/@popperjs/core@2.6.0/dist/umd/popper.min.js integrity="sha384-KsvD1yqQ1/1+IA7gi3P0tyJcT3vR+NdBTt13hSJ2lnve8agRGXTTyNaBYmCR/Nwi" crossorigin="anonymous"></script>

<script src=https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta2/dist/js/bootstrap.min.js integrity="sha384-nsg8ua9Haw1y0W1btsyWgBklPnCUAFLuTMS2G72MMONqmOymq585AcH49TLBQObG" crossorigin="anonymous"></script>

</head>

<body>

<div>

<div style="height: 10px; background-color: rgba(0,0,0,0.8);">

<div class="col-12">

</div>

</div>

<div style="height: 2px; background-color: rgba(0,0,0,0.8);">

<div class="col-12">

</div>

</div>

<div class="container overflow-hidden">

<div style="height: 2px; background-color: rgba(255,255,255,0.8);">

<div class="col-12">

```html
</div>

</div>

<div style="height: 50px; background-color: #ADFF2F; padding-left:30%;padding-top:10px">

<h3>Inventory- Issues and Returns</h3>

</div>

<div style="height: 2px; background-color: rgba(5,6,0,0.8);"></div>


</div>

<div class="row" style="height:100%">

<div class="col-2" style="border-style:solid; border-color:grey; border-width:1px; text-align:left">

<div class="col-12">

{% if session['utype'] =='Admin' %}

<div style="width:100%;" >

<a href="{{url_for('ItemsCategory')}}" style="background-color: #ADFF2F;;

  Color: black;border-bottom-style:solid;

  Padding: 14px 25px;

  Text-align: center;

  Text-decoration: none;

  Display: inline-block;width:100%">Add Item Category</a>

</div>

<div style="width:100%;">

<a href="{{url_for('Items')}}" style="background-color: #ADFF2F;;

  Color: black;border-bottom-style:solid;

  Padding: 14px 25px;

  Text-align: center;

  Text-decoration: none;

  Display: inline-block;width:100%" >Add an Item</a>
```

```html
</div>

<div style="width:100%;">

<a href="{{url_for('AddItems')}}" style="background-color: #ADFF2F;;

  Color: black;border-bottom-style:solid;

  Padding: 14px 25px;

  Text-align: center;

  Text-decoration: none;

  Display: inline-block; width:100%">Add Items</a>

</div>

<div style="width:100%;">

<a href="{{url_for('itemIssue')}}" style="background-color: #ADFF2F;;

  Color: black;border-bottom-style:solid;

  Padding: 14px 25px;

  Text-align: center;

  Text-decoration: none;

  Display: inline-block;width:100%">Item Issue</a>

</div>

{% endif %}

{% if session['utype'] !='Admin' %}

<div style="width:100%;">

<a href="{{url_for('itemReturn')}}" style="background-color: #ADFF2F;

  Color: black;border-bottom-style:solid;

  Padding: 14px 25px;

  Text-align: center;

  Text-decoration: none;

  Display: inline-block;width:100%">Item Return</a>

</div>

<div style="width:100%;">

<a href="{{url_for('itemRequest')}}" style="background-color: #ADFF2F;
```

Color: black;border-bottom-style:solid;

Padding: 14px 25px;

Text-align: center;

Text-decoration: none;

Display: inline-block;width:100%">Item Request

</div>

{% endif %}

</div>

</div>

<div class="col-8" style="border-style:solid; border-color:grey;border-width:1px; padding-top:10px">

{% block body %}

{{text}}

{% endblock %}

</div>

<div class="col-2" style="border-style:solid; border-color:grey;border-width:1px">

logout {{session['username']}}!

</div>

</div>

</div>

</div>

</div>

</body>

</HTML>