A PROJECT REPORT ON

EXPENSIFY - INCOME EXPENSE TRACKER

By

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CERTIFICATE

This is to certify that the practical / term work carried out in the subject of

System Design Practice and recorded in this journal is the

bonafide work of

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1)Abstract

Expensify is a website for expense management. It is designed for keeping track of their expenditure with easy and effective way through computerized system. It tends to eliminate manual paper works. It is used to identify and eliminate wasteful spending habits in financial life. It will help to maintain control of your finances, and promote better financial habits like saving and investing.

1) Introduction

Expensify is basically a website that records the amount of income and expense for end user.

Firstly, the registered user can successfully login to the system. Ans then user can enter the records of the daily expenses and income. Information entered can further be edited or deleted permanently. All the records would be stored according to date and would be visible in history. Further user can view their statistics by graph according to month which he/she selected changes reflected in graph. Further they can download excel file of their added records.

Technologies/Tools used

Technologies:

- Django
- Bootstrap
- Chart Js
- HTML
- CSS

Tools:

- Git
- Visual studio code
- Chrome Browser

3)Software Requirement Specifications

1)Manage User

R.1.1: Profile

Description: This section includes information related to user's profile.

R.1.1.1: View profile

Description: This option shows the profile of the user. It displays their user id, username and email id.

Input: Click on the view profile option.

Output: Profile screen would be displayed.

R.1.1.2: Edit profile

Description: This option edits the profile of the User.

Input: Click on the edit profile button .

2) Manage registration/login

R.2.1: End User

R.2.1.1: Registration

Description: If User doesn't have any exiting account then they have to register themselves.

Input: User have to provide their name, email, and password.

Output: User would be redirected to login page.

R.2.1.2: Login

Description: If User already have an account then this option will be used to display home page by logging in.

Input: Operator have to give their username and password.

3) Manage Expenses

R.3.1: Add expense category

Description: This function will allow user to add the expense category name.

Input: Click on the Add category.

Output: Add category form would be displayed.

R.3.2: Add expense record

Description: This function will allow user to add the expense information.

Input: Click on the Add Expense.

Output: Add record form would be displayed.

R.3.3: View expenses record

Description: This function will show the list of all the expenses records along with date in tabular formate.

Input: Click on the Dashboard.

Output: List of all the entered expenses would be visible.

R.3.4: Edit expense record

Description: This function will let user to edit any expense record and save changes to the database.

Input: Click on buy edit record button.

Output: edit form would be visible where user can edit and save changes to database.

R.3.5: Delete expense record

Description: This function will let operator to delete any expense record.

Input: Click on delete record button.

Output: Expense record would be deleted from the list.

R.3.6: Search expense record

Description: This function will let user search all the recorded expense with respect to amount, category, date and description.

Input: Type text in the search bar.

Output: Matched expense records would be visible accordingly.

R.3.7: View expense summary

Description: This function will let user to view history of all the entered expenses in different types of charts based on months we selected.

Input: Click on Expense summary button from sidebar.

Output: Expenses records summary would be visible.

R.3.8: Export expense

Description: This function will let user download all expenses which recorded in database in excel sheet on their system.

Input: Click on delete record button.

Output: Logged in user's expense records would be downloaded.

4) Manage Income

R.4.1: Add Income source

Description: This function will allow user to add the income source.

Input: Click on the Add source.

Output: Add source form would be displayed

R.4.2: Add Income record

Description: This function will allow user to add the income information.

Input: Click on the Add Income.

Output: Add record form would be displayed.

R.4.3: View income record

Description: This function will show the list of all the income records along with date in tabular formate.

Input: Click on the Dashboard.

Output: List of all the entered income would be visible.

R.4.4: Edit income record

Description: This function will let user to edit any income record and save changes to the database.

Input: Click on buy edit record button.

Output: edit form would be visible where user can edit and save changes to database.

R.4.5: Delete income record

Description: This function will let operator to delete any income record.

Input: Click on delete record button.

Output: Income record would be deleted from the list.

R.4.6: Search income

Description: This function will let user search all the recorded income with respect to amount, category, date and description.

Input: Type text in the search bar.

Output: Matched income records would be visible accordingly.

R.4.7: View income summary

Description: This function will let user to view history of all the entered income in different types of charts based on months we selected.

Input: Click on Income summary button from sidebar.

Output: Income records summary would be visible.

R.4.8: Export income

Description: This function will let user download all income which recorded in database in excel sheet on their system.

Input: Click on delete record button.

Output: Logged in user's income records would be downloaded.

5)Logout user

R.5.1: logout

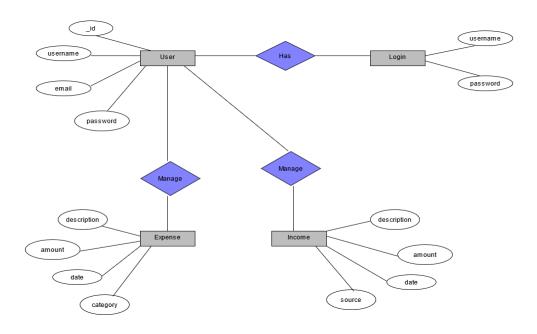
Description: Operator can logout after completion of task. All the entered records would not be affected due to logout.

Input: Click on logout option in side bar.

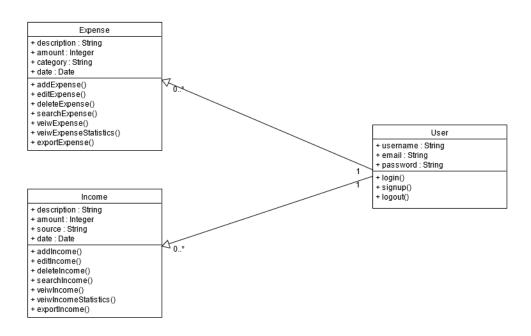
Output: Operator would be redirected to login page again.

4) Design

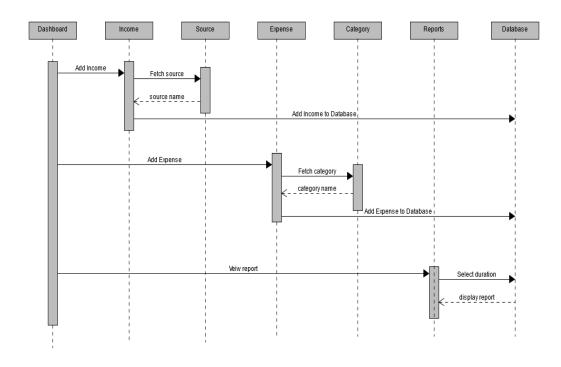
i. E-R diagram



ii. Class diagram



iii. Sequence diagram



iv. Data Dictionary

Users							
Sr No.	Field name	Data	Required	Unique	PK/FK	Referred	Description
		type				table	
1	_id	Int32	yes	yes	yes	-	Autoincrement
2	name	String	yes	yes	no	-	-
3	email	String	yes	no	no	-	-
4	password	String	yes	no	no	-	-

	Category						
SrNo.	Field name	Data	Required	Unique	PK/FK	Referred	Description
		type				table	
1	name	String	yes	yes	no	-	-

	Expense						
Sr	Field name	Data	Required	Unique	PK/FK	Referred	Description
No.		type				table	
1	_id	Int32	yes	yes	yes	-	Autoincrement
2	amount	Int32	yes	yes	no	-	-
3	description	String	yes	no	no	-	-
4	category	String	yes	no	yes	Category	-
5	date	Date	yes	no	no	-	-

	Source						
Sr	Field name	Data	Required	Unique	PK/FK	Referred	Description
No.		type				table	
1	name	String	yes	yes	no	-	-

	Income						
Sr	Field name	Data	Required	Unique	PK/FK	Referred	Description
No.		type				table	
1	_id	Int32	yes	yes	yes	-	Autoincrement
2	amount	Int32	yes	yes	no	-	-
3	description	String	yes	no	no	-	-
4	source	String	yes	no	yes	Source	-
5	date	Date	yes	no	no	-	-

5) Implementation Details

a). Modules

Login-Registration

This module is the base for authentication authorization to ensure the security aspect of the user.

It consist of all the login and registration functionality. User can login to the system if account already exist. User can register with unique username to create an account.

User is supposed to provide correct credentials to successfully login to the system.

User can logout from the system whenever he/she wants. This functions would not delete the activities performed by user.

Expense Records

This module is basically used in entering the record of the expense. Once we enter the information and click on add record the following information would be added to the database.

User can edit the information of expense by clicking on the edit button. All the updated fields will be updated to the database.

User can delete the record of any particular expense by clicking on the delete button. That particular record would be deleted from the list of the expense.

User can search the expense from the list with respect to either amount, description, category date.

User can view statistics of the expense based on selected date by all types of graphs(Pie ,Bar ,Line,

Doughnut).

User can also export records of all expense in excel Formate in their system by clicking on export CSV Button.

Income Records

This module is basically used in entering the record of their income. Once we enter the information and click on add record the following information would be added to the database.

User can edit the information of income by clicking on the edit button. All the updated fields will be updated to the database.

User can delete the record of any particular income by clicking on the delete button. That particular record would be deleted from the list of the income.

User can search the income from the list with respect to either amount, description, source or date.

User can view statistics of the income based on selected date by all types of graphs(Pie ,Bar ,Line,

Doughnut).

User can also export records of all income in excel Format in their system by clicking on Export CSV Button.

b). Major functionalities

Login:

Logout:

```
class LogoutView(View):
    def post(self,request):
        auth.logout(request)
        messages.success(request,'You have been logged out')
        return redirect('login')
```

Registration:

Search Expense:

Profile-Edit:

```
def profile_edit(request,id):
       email = request.POST['email']
           messages.error(request, 'Email is required')
        user.username=username
        return redirect('profile')
```

Delete Expenes:

Add Expense:

```
@login_required(login_url='authentication/login')
def add_expense(request):
    categories=Category.objects.all()

context={
        'categories':categories,
        'values':request.POST
    }
    if request.method == 'GET':
        | return render(request, 'expenses/add_expense.html',context)

if request.method == 'POST':
        | amount = request.POST['amount']

if not amount:
        | messages.error(request, 'Amount is required')
        | return render(request, 'expenses/add_expense.html',context)

description = request.POST['description']
        date = request.POST['expense_date']
        category = request.POST['expense_date']
        if not description:
        | messages.error(request, 'Bescription is required')
              | return render(request, 'expenses/add_expense.html',context)

Expense.objects.create(owner-request.user,amount=amount,description=description,date=date,category-category)
        messages.success(request,'Expense saved successfully')
        return redirect('expenses')
```

Edit Expense:

Expense-Report:

```
def expense_one_category_summary(request):
    if request.method == 'POST':
        category = json.loads(request.body).get('categoryv')
        vmonth = json.loads(request.body).get('month')
        todays_date= datetime.date.today()
        six_months_ago=todays_date-datetime.timedelta(days=30*int(vmonth))
        expenses=Expense.objects.filter(owner=request.user, category=categoryv,
        date__gte=six_months_ago, date__lte=todays_date)
        finalrep={}
        z={}
        keyList = [ 'January', 'February', 'March', 'April', 'May', 'June', 'July', 'August', 'September', 'October', 'November', 'December']
        for i in keyList:
        | finalrep[i] = 0.0

        def get_category(expense):
            return expense.category
        def get_date(expense):
            return expense.category

        date_list = list(set(map(get_date,expenses)))

        for x in expenses:
            temp = x.date.strftime("%B")
            finalrep[temp] += x.amount

            return JsonResponse(('expense_category_data':finalrep),safe=False)
```

Js file of Income Chart:

Export-Income:

```
def export_income_excel(request):
    response= HttpResponse(content_type='application/ms-excel')
    response['Content-Disposition']='attachment; filename=Income'+ str(datetime.datetime.now()) +'.xls'

wb=xlwt.Workbook(encoding='utf-8')
ws=wb.add_sheet('Income')
    row_num=0
    font_style=xlwt.XFStyle()
    font_style.font.bold=True

columns=['Amount', 'Description', 'Source', 'Date']

for col_num in range(len(columns)):
    ws.write(row_num,col_num,columns[col_num],font_style)

font_style=xlwt.XFStyle()

rows=UserIncome.objects.filter(owner=request.user).values_list('amount', 'description', 'source', 'date')

for row in rows:
    row_num+=1

    for col_num in range(len(row)):
        ws.write(row_num,col_num,str(row[col_num]),font_style)

wb.save(response)

return response
```

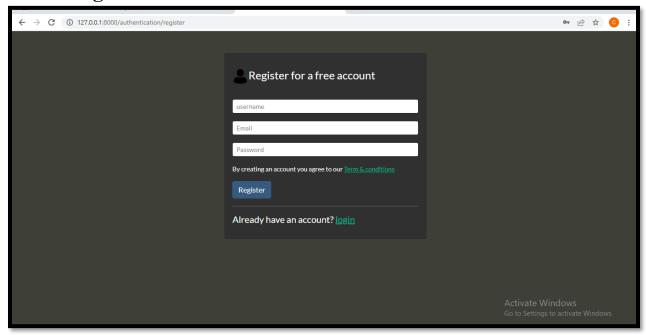
<u>5)</u> <u>Testing</u>

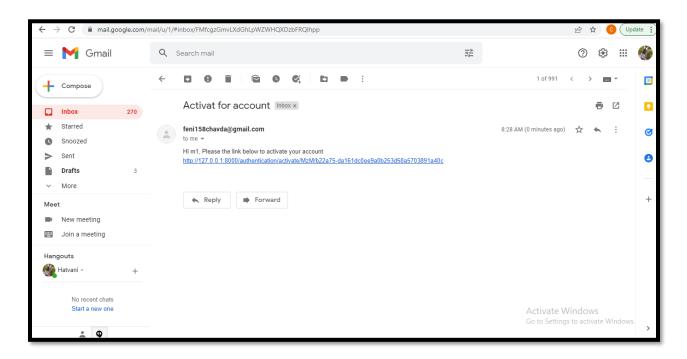
Testing method: Manual testing

Sr no.	Test Scenario	Expected result	Actual result	Status
1	Login with incorrect credentials	Alert box is popped up with a message	Alert box is popped up	Success
2	Entering different password and confirm password	'password does not match' alert box should be displayed	'password does not match' alert box is displayed	Success
3	Clicking on login/register button with empty fields	'invalid input' alert box should be appeared	'invalid input' alert box is appeared	Success
4	Add Expense/income record to the database	Record should be added to the list of all the Record	Record is added to the list	Success
5	Edit Expense/income record	Edit form should be visible	Edit form is visible	Success
6	Click on Export Excel	Record File should be download	Record File download	Success
7	Expense/income record click on Delete	That recorded should be Deleted	Recorded Deleted	Success
18	Click on Expense/income Report	Expense/income page should be visible and display summary	Expense/income page is visible display summary	
12	Click on edit profile button	Profile should be updated	Profile is updated	Success

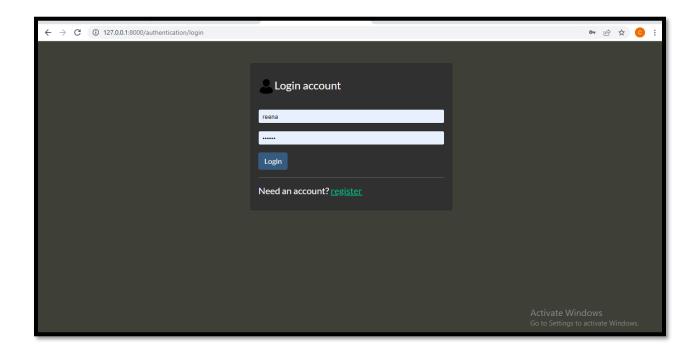
7) Screen-shots

• Registration

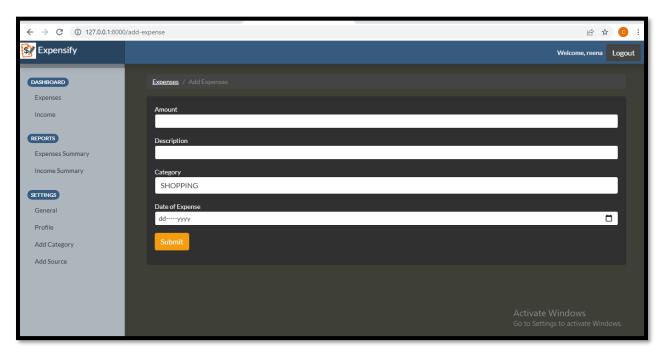




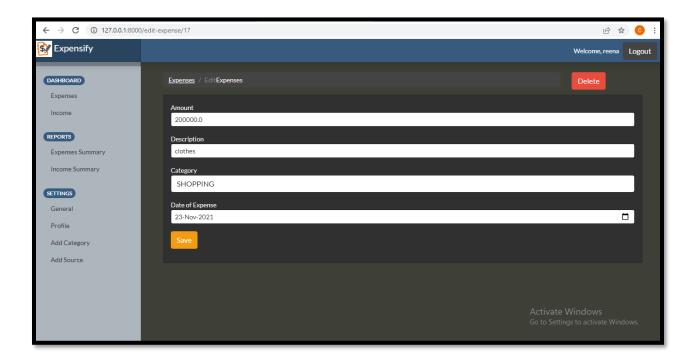
• Login:



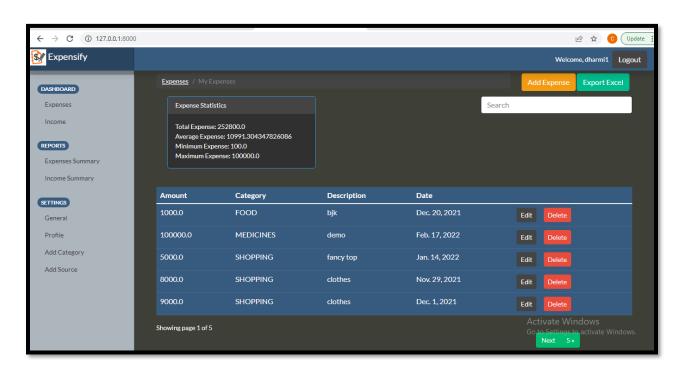
• Add-Expense:



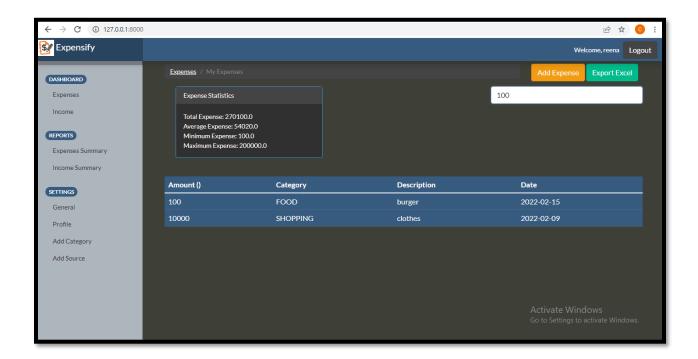
• Edit-Expense:



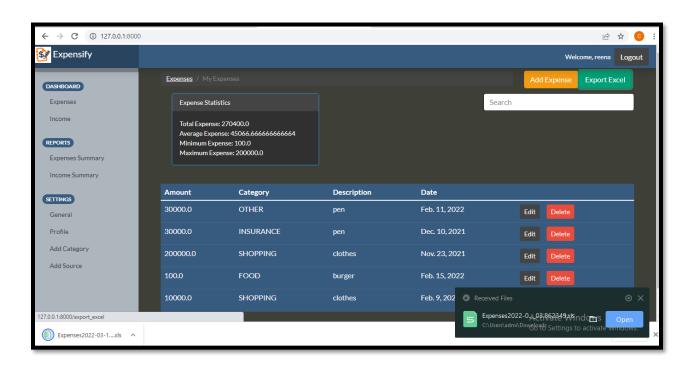
• Pagination and Display Statistic:



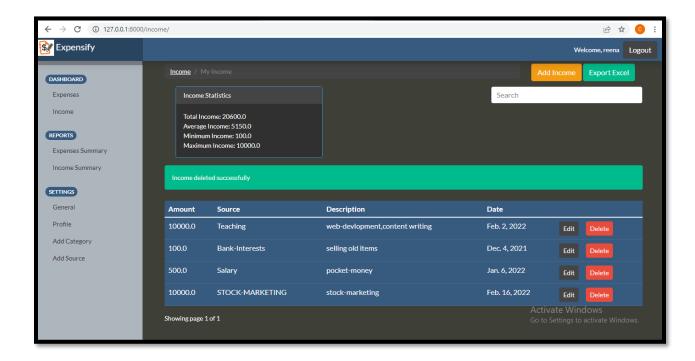
• Expense Search:



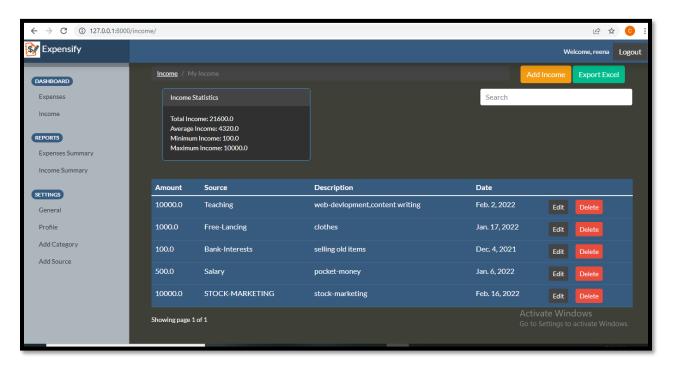
• Export Excel File:



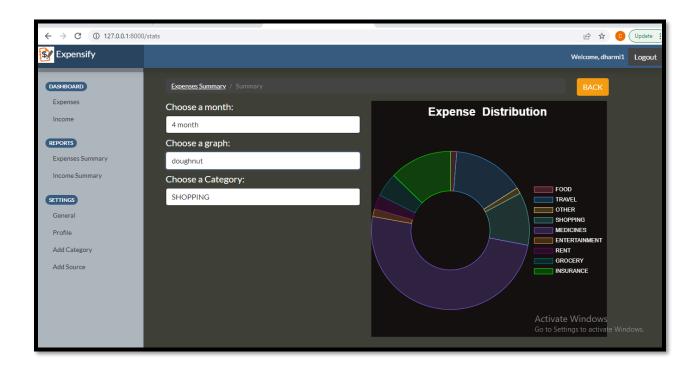
• Income Delete:

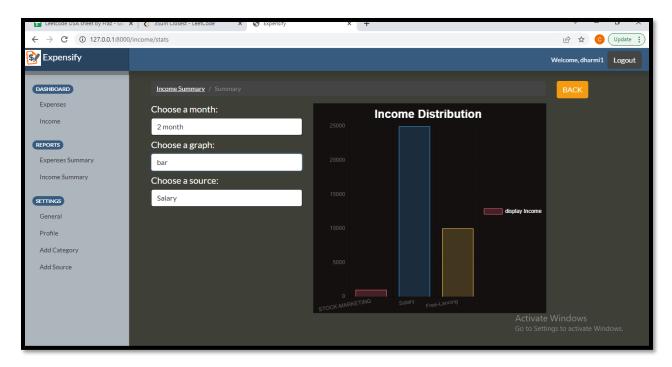


• Display Income Record and Statistic:



• **Expenses and Income Report** Category wise and Filter it with month and One Category:







8) Conclusion

The functionalities that are implemented in the system are prepared after understanding all functionalities according to software requirements specifications (SRS). Functionalities that are successfully implemented in

the system are as follows:

- Login
- Registration
- User authentication
- Logout
- Add Expense/Income record
- Edit Expense/Income record
- Delete Expense/Income record
- Search Expense/Income record
- View Statistic Expense/Income record
- Export Excel Expense/Income record file
- Expense/Income Report
- Add Source/Category
- Edit profile

After implementing all these functionalities, comprehensive testing was performed on the system to determine possible errors.

9) Limitations and future extensions

Limitations:

- This project is suitable for small scale organization
- When type of category/source is very high then using graphs see the summary is Difficult.

Future extensions:

• We implement Functionality that convert rupees to other currency so is it use for any user.

10) Bibliography

Following links and websites were referred during the development of this project:

- www.docs.djangoproject.com
- https://www.chartjs.org/
- https://github.com/
- https://stackoverflow.com/
- https://www.w3schools.com/
- https://getbootstrap.com/docs/4.0
- http://www.umletino.com/
- https://www.python.org/doc/