



Daffodil
International
University

Department of Software Engineering

SWE 431: Thesis/Project

Project Documentation

CORPORATE UTILITIES

Supervised By

NAZIA NISHAT

Senior Lecturer

Department Of Software Engineering

Daffodil International University

Submitted By

MD.HASAN SHAHRIAR

ID: 152-35-1295

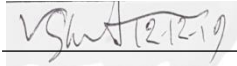
Department Of Software Engineering

A project submitted in partial fulfillment of the requirement for the degree of
Bachelor of Science in Software Engineering

Declaration

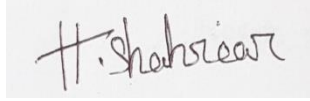
I hereby declare that, this project has been done by me under the supervision of **NAZIA NISHAT**, Senior Lecturer, and Department of Software Engineering, Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere.

Certified By:



NAZIA NISHAT
Senior Lecturer
Department of Software Engineering
Daffodil International University

Submitted By:



MD.HASAN SHAHRIAR
Id: 152-35-1295

Department of Software Engineering
Daffodil International University

Acknowledgement

First of all, I am very much blessed as I have successfully reached towards the final semester. And so this is why I am pleased to my almighty. From the very beginning of my university life, I have learned a lot about software engineering as well as core computer science related knowledge from my course teachers. Moreover, they teach us ethics, morality and politeness.

Besides, I am so much thankful to my parents that, I was always supported by them. They always prioritize my opinion and inspired me as well.

I am also grateful to my supervisor **NAZIA NISHAT** for allowing me to work with this project. He always supports me to make this projects successful.

MD.HASAN SHAHIAR

Department of software engineering

Daffodil International University

Abstract

The motivation behind the project that I saw many renowned company has several section and each section contains thousands of data's,so i came up with this idea that if we can merge same type of file in one row , split one data set into two or more and rename them therefore it can be a huge time consuming.

TABLE OF CONTENTS

DECLARATION.....	ii
ACKNOWLEDGEMENT.....	iii
ABSTRACT.....	iv
TABLE OF CONTENT.....	v-vii
CHAPTER 1.....	1
INTRODUCTION.....	1
1.1 PROJECT OVERVIEW	1
1.2 PROJECT PURPOSE	1
1.2.1 Background	1
1.2.2 Benefits & Beneficiaries	1
1.2.3 Goals.....	2
1.3 STAKEHOLDERS	2
1.5.1 Release plan or Milestone	4
CHAPTER 2.....	5
SOFTWARE REQUIREMENT SPECIFICATION	5
2.1 FUNCTIONAL REQUIREMENT	5
2.1.1 Member Information.....	5
2.1.2 Update Member Details.....	5
2.1.3 Create Job Post.....	5
2.1.4Apply Job Post.....	6
2.1.5 Get to know Result	6
2.2 DATA REQUIREMENTS	6
2.3 PERFORMANCE REQUIREMENTS	6
2.3.2 Precision & Accuracy Requirements	6
2.3.3 Capacity Requirements	6
2.4.1 Reliability & Availability Requirements	7
2.5.1 Maintainability Requirement.....	7
2.5.2 Supportability Requirements	7
2.6 SECURITY REQUIREMENTS	7
2.6.1 Access Requirements.....	7
2.6.2 Integrity Requirements	7
2.6.3 Privacy Requirements	8
2.7.2 Personalization and Internationalization Requirements	8
2.7.3 Understandability and Politeness Requirements.....	8
2.8.1 Appearance Requirements	8
2.8.2 Style Requirements.....	8
CHAPTER 3.....	9
REQUIREMENT ANALYSIS.....	9

3.1	ACTIVITY DIAGRAM.....	9
3.1.1	<i>Register Account</i>	9
3.1.2	<i>Login</i>	9
3.1.3	<i>Edit Profile</i>	10
3.1.4	<i>Job Post</i>	11
3.1.5	<i>View Job Post</i>	12
CHAPTER 4.....		13
SYSTEM DESIGN SPECIFICATION		13
4.1	DEVELOPMENT TOOLS AND TECHNOLOGY	13
4.1.1	<i>User Interface Technology</i>	13
4.1.2	<i>Implemented tools and platform</i>	13
4.2	DATABASE DESIGN DIAGRAM	13
CHAPTER 5.....		14
SYSTEM TEST.....		14
5.1	TESTING FEATURES	14
5.1.1	<i>Feature to be tested</i>	14
5.2	TESTING STRATEGY.....	14
5.2.1	<i>Test approach</i>	14
5.4	TRACE ABILITY MATRIX	15
5.5	TESTING ENVIRONMENT.....	16
5.5	TESTING ENVIRONMENT.....	17
CHAPTER 6.....		18
USER MANUAL.....		18
6.1	REGISTER ACCOUNT.....	18
6.2	LOGIN.....	19
6.3	EMPLOYER COMPLETE COMPANY PROFILE.....	20
6.4	POST JOB PAGE.....	21
6.5	JOB PAGE.....	22
7.1	PROJECT SUMMARY.....	22
7.2	LIMITATIONS	23
7.3	FUTURE SCOPE	24
7.5	REFERENCES.....	24

Chapter 1

Introduction

1.1 Project Overview

Now a days all giant companies including bank,finance,software firms,telecommunication sector have several section and each of the section contains millions of data,therefore i built a desktop based application called"Corporate utilities " that can merge,split and rename both pdf and excel,so any one can merge or split those file easily.

1.2 Project Purpose

The motivation behind this poject for security issues and saving time.If we want to merge a bunch of file it is very time consuming to copy each files and almost impossible to complete at a time when it's about a huge set of file and usually we go online to merge those files which contains security threat,so if we use this desktop application it can be secure and time consuming.

1.2.1 Background

I saw many companies get hessel to manage the huge amount of file with a millions of data and sometimes it causes security issues,so I came up with this idea that can help those organization to manage those data.

1.2.2 Benefits & Beneficiaries

This application would be beneficial for some point of view. Now I'm mentioning those below:

- ✓ Companies can easily use this application
- ✓ It helps to save a lot of time and money.

- ✓ All data's are secured
- ✓ Reduces complexity to manage a huge amount of data.

1.2.3 Goals

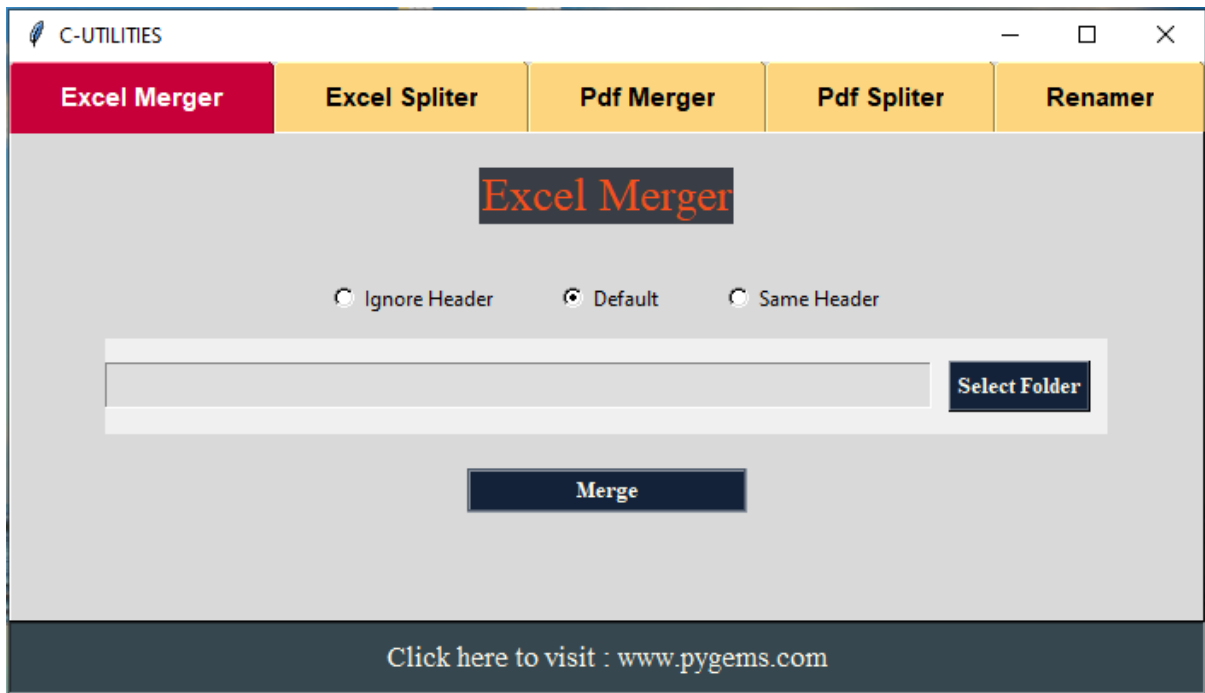
The purpose of the archive is to gather and dissect every single grouped thought that have come up to characterize the framework, its necessities as for the organization. Likewise, I will anticipate and sift through how I trust this framework will be utilized so as to increase a superior comprehension of the task, layout ideas that might be grown later, and report thoughts that are being considered yet might be disposed of as the framework creates.

1.3 Stakeholders

There is one type of stakeholder in this system, that is user who use the whole system for merging and splitting to manage files.

1.4 Proposed System Model

Before going to develop a system, it is very important to have a system model. I have already prepared a system model. This model will clarify my proposed system in brief.



This project named “C corporate” system is going to be developed on desktop based application. This application reserves different types of libraries as well as user privileges. And each module architecture is different from one another. Before describing project overview, I need to expose module architecture.

Such as:

Tkinter:

It is a python binding to the tk gui toolkit. It is the standard python interface to the tk gui toolkit and is python's de facto standard gui.

Numpy: Numpy library is used for different purpose in this project it is used for multidimensional array.

Pandas: It aims to be the fundamental high level building blocks for practical analysis in python.

1.5.2 Release plan or Milestone

The release plan or milestone are given below:

Activities	Duration in week	Total week
Brainstorming	Week 1	1
Problem identification	Week 1, Week 2	2
Requirement Specification	Week 2	1
Requirement Analysis	Week 2	1
Sketching	Week 4	1
Design Specification	Week 4	1
Database Design	Week 5	1
Quality Assurance	Week 3	1
Test Case	Week 6, Week 7, Week 8	3
Impose Case & Demerits	Week 9, Week 10, Week 11	3
Unit Testing	Week 12, Week 13	2
Black-box Testing	Week 14, Week 15, Week 16	3
Software Release	Week 17	1

Table 0.1: Replace plan/Milestone

Chapter 2

Software Requirement Specification

2.1 Functional Requirement

Functional requirements refer to the functions which are mandatory to the system. Functional requirements must be able to perform on the software system. Every system must have some functional requirements. Now, we are going to mention functional requirements associating with our project.

2.1.1 Excel merger

FR-01	Excel meger
Description	This module is for merging excel file with or without header
Stakeholder	User

2.1.2 Excel spliter

FR-02	Excel spliter
Description	This module helps to split large files in two or more files.
Stakeholder	User

2.1.3 PDF MERGER

FR-03	PDF MERGER
Description	This module used for merging and splitting pdf files
Stakeholder	User

2.1.4 PDF SPLITTER

FR-04	PDF SPLITTER
Description	It splits pdf file in all page or page number
Stakeholder	USER

2.1.5 RENAMER

FR-05	RENAMER
Description	It rename files with or without header
Stakeholder	User

2.3 Performance Requirements

A requirement that specifies a performance characteristic that a systems component process; for example, speed, accuracy, frequency.

2.3.2 Precision & Accuracy Requirements

There are no specific precision and accuracy requirements.

2.3.3 Capacity Requirements

The system is able to merge all types of excel files with or without header

CR-01	Initially the system will manage excel and pdf files
Description	The information will not be stored in database
Stakeholder	Job Seeker and Employer.

2.5.2 Supportability Requirements

In order to understand the system's behavior on a technical support required by the system operator. The reason for reading them might be

- System malfunction has occurred and the system operator has to find the exact point of time when this happened
- System produces wrong results and the developers must be able to reproduce the data flow through the system

2.6 Security Requirements

There are no access requirements beside those that have been outlined in the below:

- The software must validate all user input to ensure it does not exceed the size specified for that type of input
- The server must authenticate every request accessing the restricted Web pages
- After authenticating the browser, the server must determine whether that browser is authorized to access the requested restricted Web pages

2.6.1 Access Requirements

For accessing to our application system, there remains some authentication and authorization techniques. And every module of our system will provide it. Now I will provide an explanation below.

AR-01	The system provides security strategies.
Description	The system is designed in way that allows modules to access a mechanism that security services.
Stakeholder	Admin, Job Seeker, Employer

2.6.2 Integrity Requirements

To protect credentials of user from being stolen, all passwords are stored in encrypted form. The Requirements significantly reduces the value of stolen user credentials, it's not easy to decrypt the password.

2.6.3 Privacy Requirements

This system has complete privacy because this is desktop based application, and user do not have to go to the online so it's unhackable.

2.7 Usability and Human-Interaction Requirements

The main target of developing any system is to make the system user friendly and easy to usable for the end users.

2.7.1 Ease of Use Requirements

The system is easy to use and can easily be understandable.

only be operated by Bangladesh.

2.7.3 Understandability and Politeness Requirements

It is already said that the application which we are going to develop, is understandable enough.

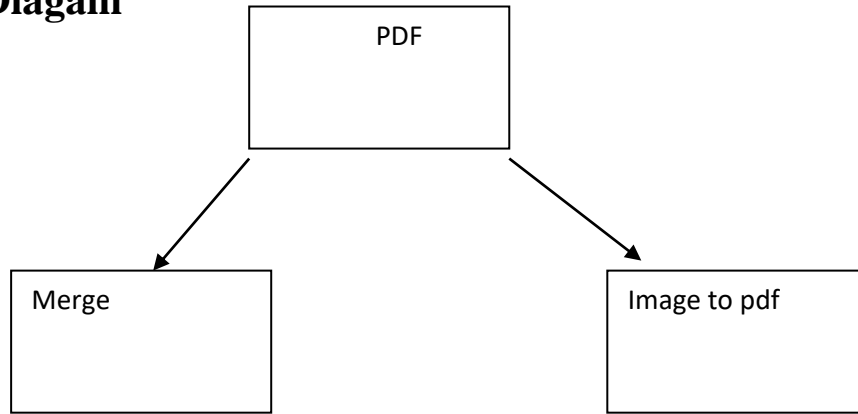
We will provide a web based user interface. This requirement does not only define the necessity to use a CSS but although the requirements regarding the CSS's content as well as CSS framework like bootstrap.

SR-01	The look and feel must be controllable using style sheet
Description	The styling of the elements of the web based user interface will be defined using CSS, JS.

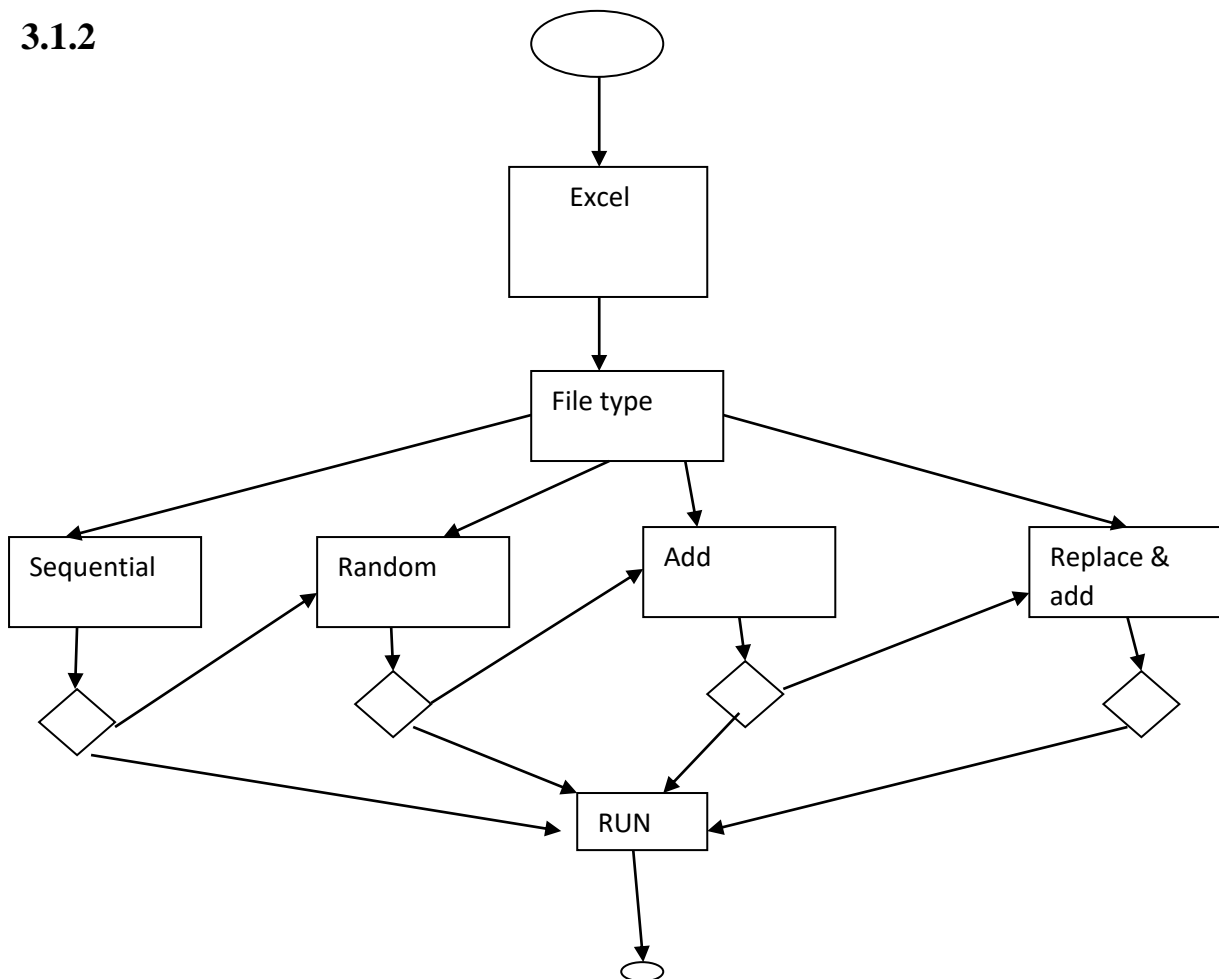
Chapter 3

Requirement Analysis

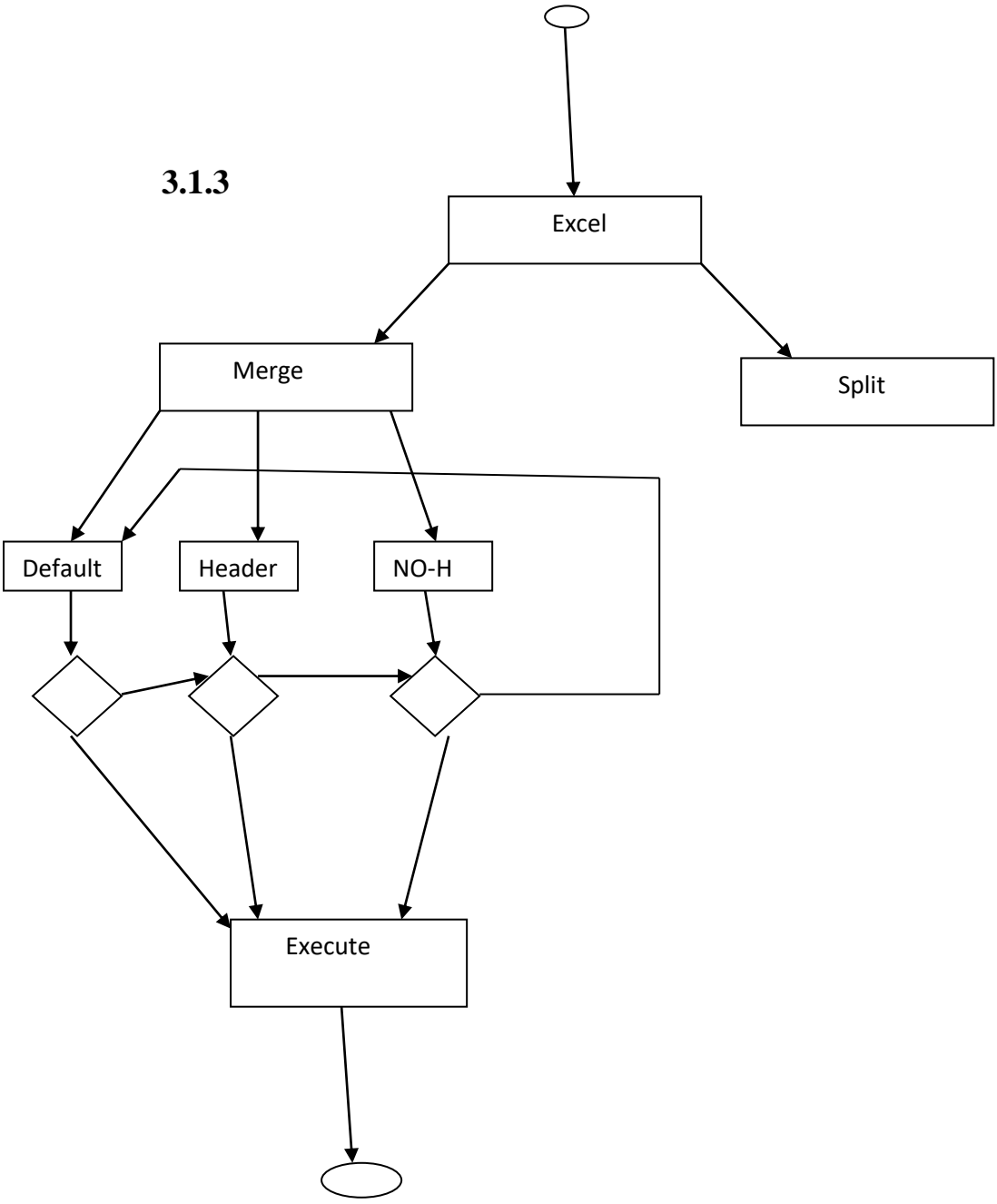
3.1 Activity Diagram



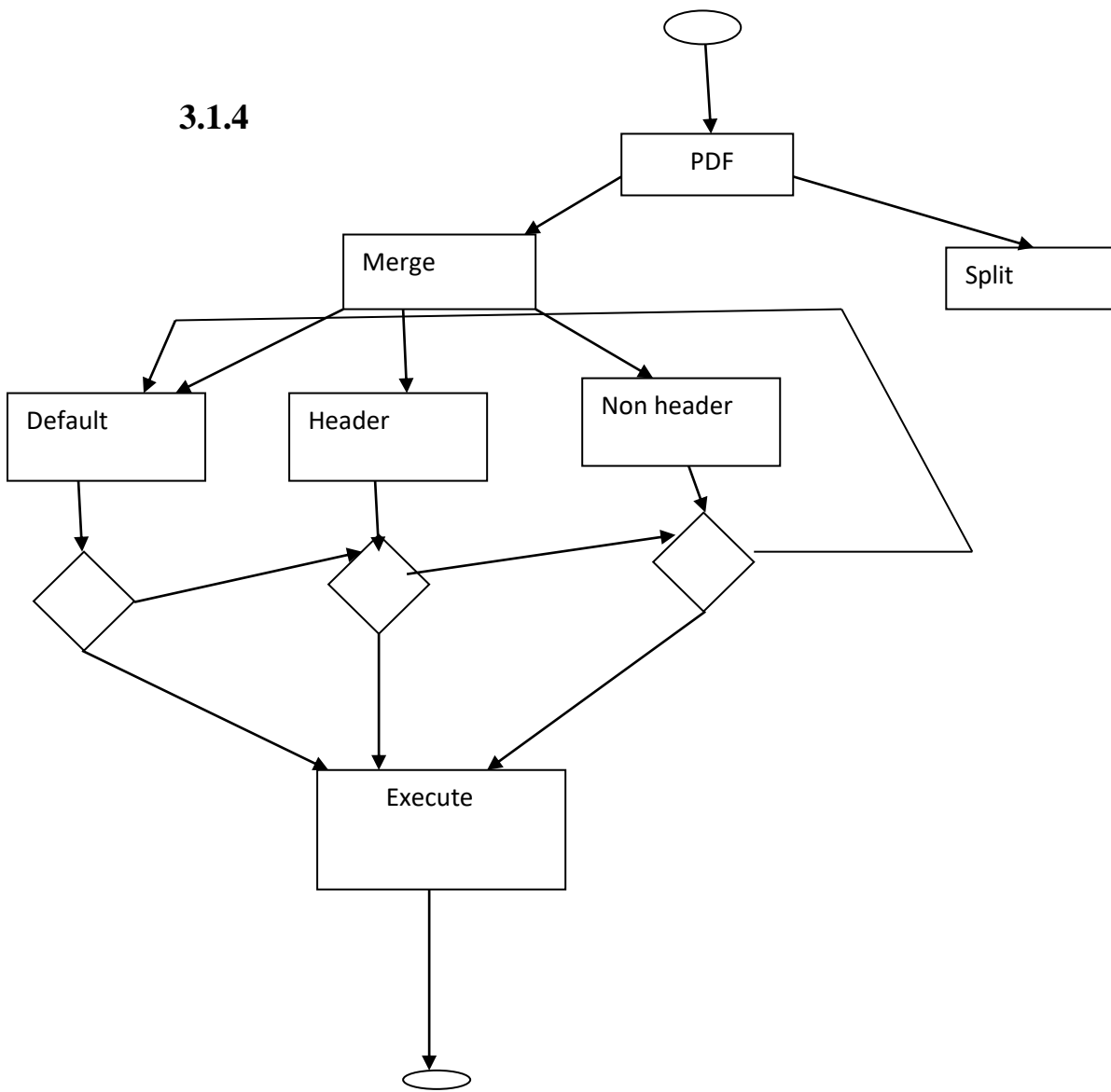
3.1.2



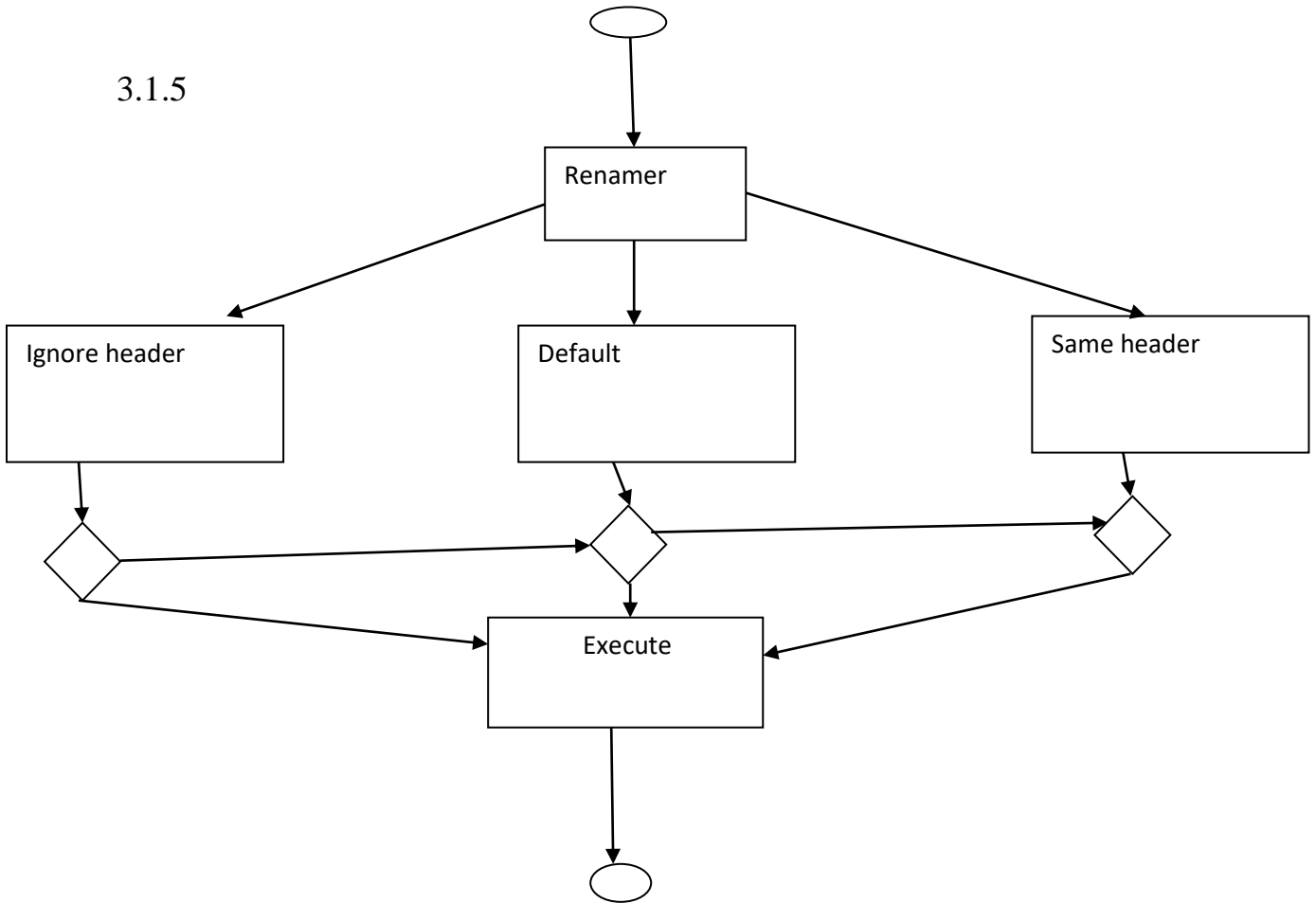
3.1.3



3.1.4



3.1.5



Chapter 4

System Design Specification

4.1 Development tools and technology

Software development tools are utilized to create the system. There are various types of instruments for programming designers to make the procedure of programming improvement smooth. However, presently I will make reference to a portion of the apparatuses that I am utilizing to build up my task.

4.1.1 User Interface Technology

First of all, after landing any application, interface of that software is appeared to the user. So, the importance of user interface is very high. For success of any software application, a good looking user interface plays a vital role. User interface includes using good image, graphics, typography, stylesheets, scripting etc.

4.1.2 Implemented tools and platform

As I have said before, there are some tools and technologies that need to be used for developing software. It is very important to determine which tools and platforms are the best match of my requirements. After making a proper decision, one need to start using them.

4.1.2.1 Integrated Development Environment

IDE stands for Integrated Development Environment. Programmers write code on IDE. After that IDE provide the feature to execute the source code. For developing my web application, I have used two IDE.

Figure 4.2: Database Design

Chapter 5

System Test

5.1 Testing Features

Feature testing can be considered as making change to add or modify the new functionality to the existing project. To test the features and functionality, a new test set is to be written for testing purpose.

5.1.1 Feature to be tested

Feature	Priority	Description
Excel merging	2	Merging excel files with or without header
Excel splitter	2	Split large amount of files.
Pdf meging	2	Merging pdf with or without header
Pdf spliter	3	Split large amount of pdf files
Renamer	2	Rename file with header,ignore header or default
	3	

Table 2.1: Feature to be tested

5.2 Testing Strategy

Testing strategy is to be considered as a general purpose of testing process. Testing object, testing function methods, total available resources are included to the testing strategy.

5.2.1 Test approach

To complete the test process, testers must take some approach. There are mainly two test approach.

- **Automation testing:** Automation testing is a name of testing technique by which test engineers prepare some scripts according to test plan and after that they use suitable tools to perform testing of the software. Nowadays, almost every software company follow the approach of automation testing.
- **Manual testing:** Manual testing is also a name of technique of testing by searching out the bugs or vulnerability in an application. In this process, test engineers manually test and execute the test cases without having any automation tools.

5.2.1.1 Black Box Testing

Black box testing is a software testing method by which test engineers test the software without having knowledge of the internal architecture of the application that need to be tested. It is also known as behavioral testing. Black box testing can be both functional or non-functional. It ignores the internal mechanism of a system.

5.2.1.2 Equivalent Class Partitioning

Equivalent class partitioning is also known as equivalent partitioning. In this technique input data is to be divided into groups. Those group of data are expected to perform as similar behavior. Each groups works as same as other groups also.

5.2.1.3 Boundary Value Analysis

Boundary value analysis is a name of software testing by which input data can be included within a boundary range. Following this strategy, test engineers firstly define the boundary value.

5.2.1.4 White Box Testing

White box testing is also a name of testing approach which is also known as clear box testing, glass box testing, open box testing, transparent box testing, code based testing or structural testing.

Testers can also predict the output of every test cases for white box testing. White box testing can be classified into some levels. Such as:

- Unit Testing
- Integration Testing

5.4 Trace Ability

Project Manager			Business Analyst Lead		
QA Lead			Target Implementation Date		
BR#	Category / Functionality	Requirement Description	Use Case Reference		Comments
BR-1	Functional	Pdf splitter	Activity 3.1.1		Good
BR-2	Functional	Excel merger	Activity 3.1.2		Average
BR-3	Functional	Excel splitter	Activity 3.1.3		Good
BR-4	Functional	Pdf merger	Activity 3.1.4		Good
BR-5	Functional	Renamer	Activity 3.1.5		Average

Table 2.3: Trace ability

5.5 Testing Environment

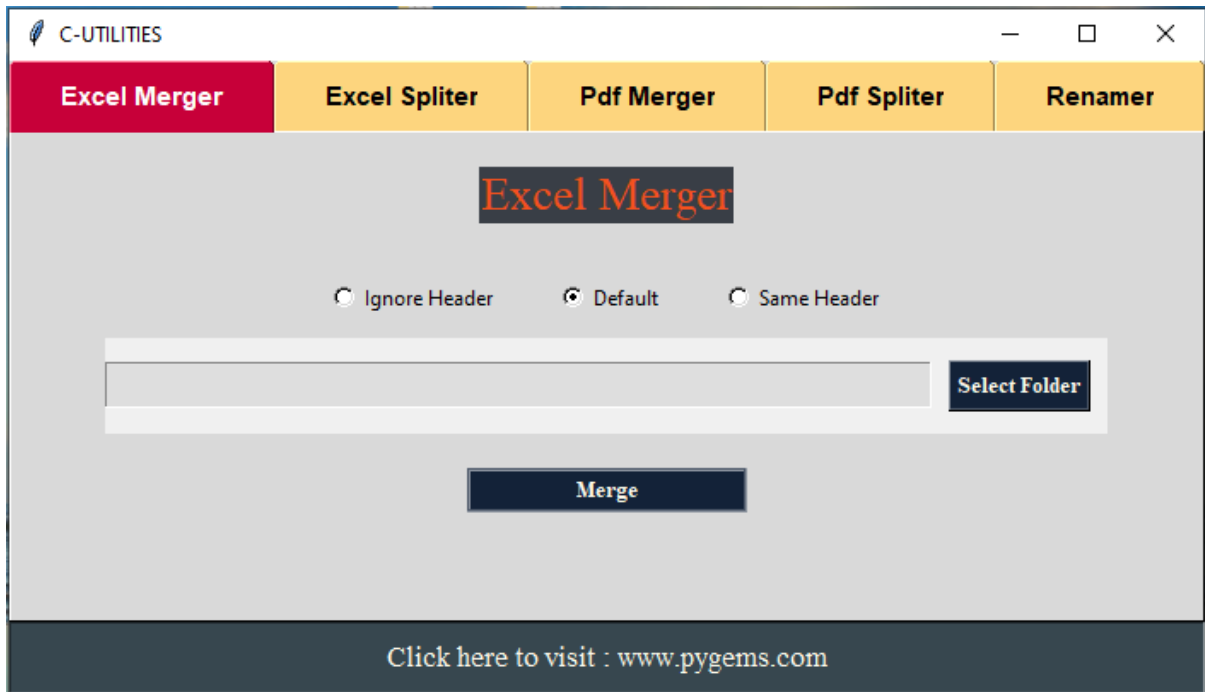
Testing environment means to prepare the environment with hardware and software so that test engineers can be able to execute test cases as required. Besides hardware and software usage, network configuration might be needed to execute test plans.

For making the environment for testing, some key area need to setup. Those are:

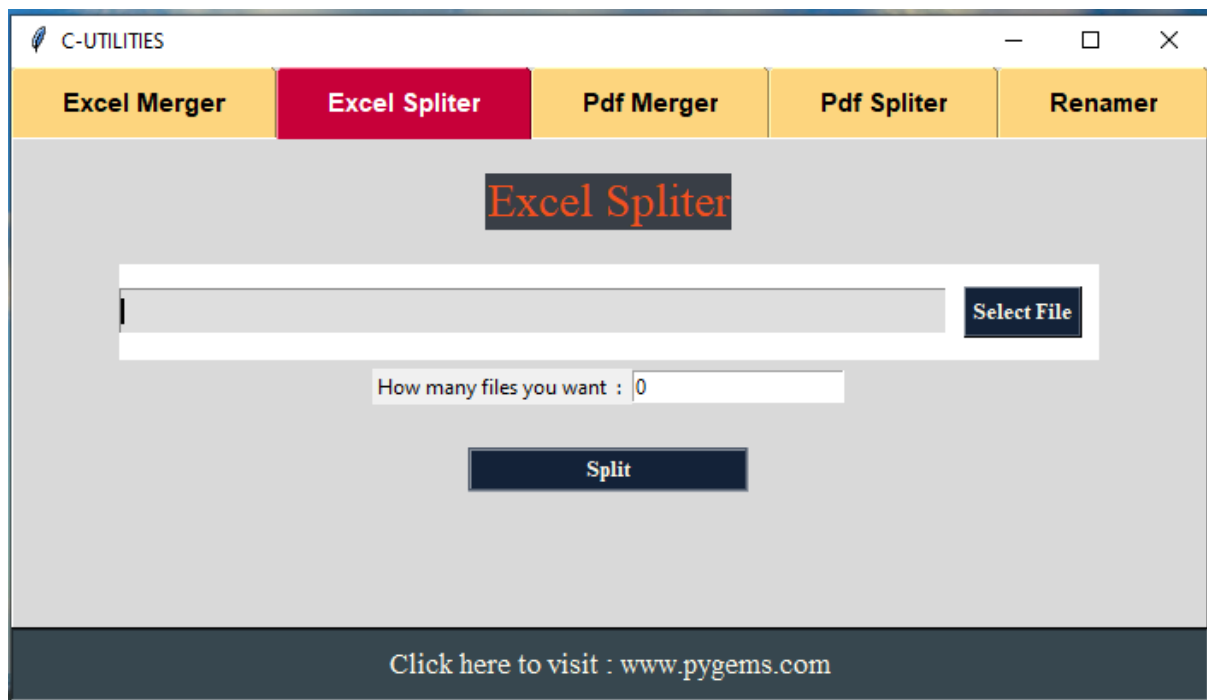
- Client's operating system
- Front end running environment
- System and application

User Manual

6.1 Excel meger



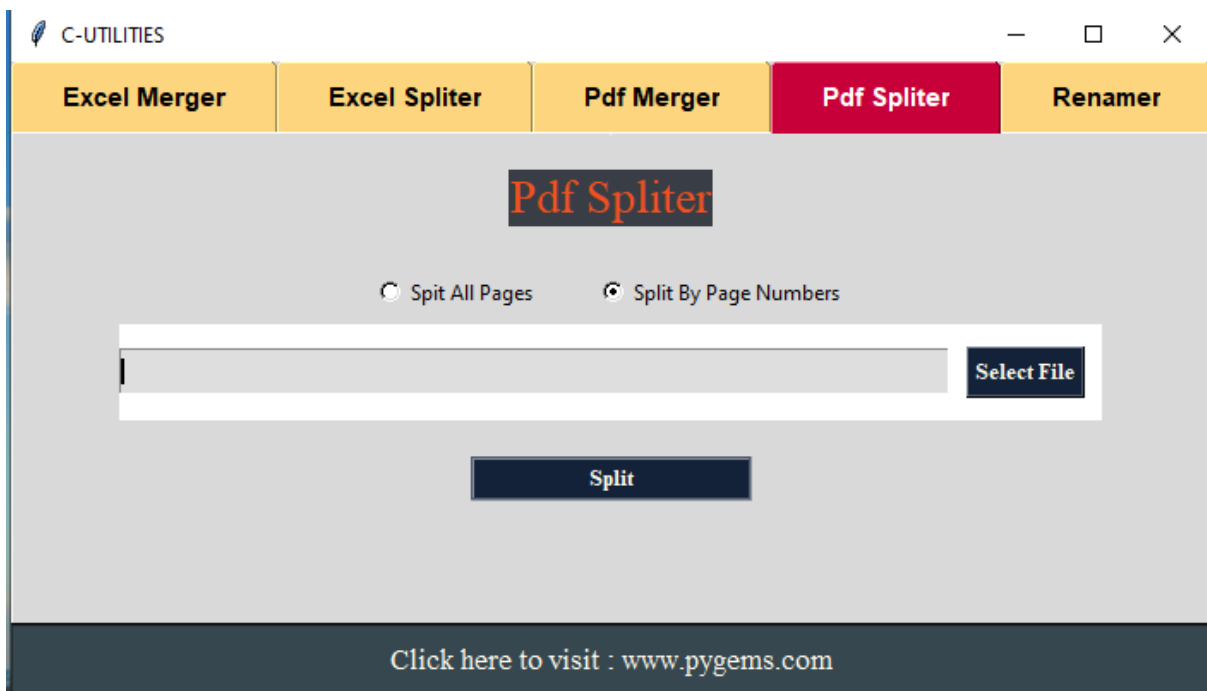
6.2 Excel splitter



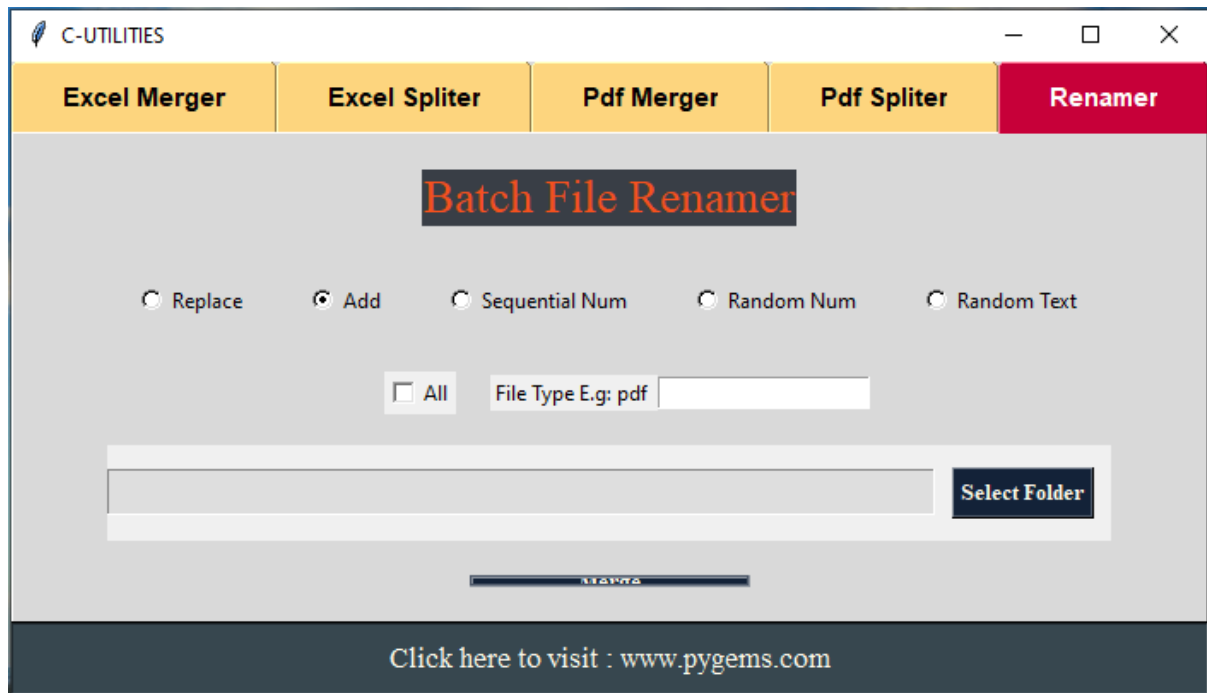
6.3 Pdf merger



6.4 pdf spliter



6.5 Renamer



7.1 Project Summary

I have started to develop my project from May. From the very beginning of developing this project, it needs hard working, patience, persistence to the requirements of stakeholders though it's not take too much to find out all requirements. And then I started to work.

7.2 Limitations

For developing this project, I have face some limitations. Now I will describe those in brief

- **Only Desktop version:** I have designed and developed this project for Desktop version. But there are some other platforms. I haven't worked for them.

Ease-of-use: I try to design my system look good at a time easy to use. But when I try to delve resizing images, customize pages, they begin to become a painstaking process.

7.3 Future Scope

If we add more features in this project as well as marketing this application, it would be a great changing towards security level of any organization

7.4 Discussion and Conclusion

I have started to develop my project from May. From the very beginning of developing this project, it needs hard working, patience, persistence to the requirements of stakeholders though it's not take too much to find out all requirements. And then I started to work.

7.5 References

I have gained some knowledge from some platforms. Obviously, I will mention those references. For making my project successful those resources help me a lot. Not I will mention the names below.

Visual database schema design. (n.d). Retrieve from <https://www.mysql.com/products/workbench/design>

Creating new files. (n.d). Retrieve from <https://help.github.com/en/articles/creating-new-files>

Compiled css and js. (n.d). Retrieve from <https://getbootstrap.com/docs/4.3/getting-started/download/>

References-websites. (n.d). Retrieve from <https://www.bdjobs.com/>

Activity diagram

https://en.wikipedia.org/wiki/Activity_diagram,<https://www.smartdraw.com/uml-diagram/>

Github link: https://github.com/shahriR-ENG/Corporate_utilities