

Functional Testing

Project report submitted in partial fulfillment of the requirement for the degree of

BACHELOR OF TECHNOLOGY

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

By

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UNDER THE GUIDANCE OF

DR. Nafis Uddin Khan



**JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY,
WAKNAGHAT**

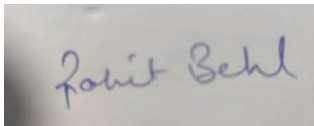
May, 2021

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DECLARATION

We hereby declare that the work reported in the B.Tech Project Report entitled “**Functional Testing**” submitted at **Jaypee University of Information Technology, Wazirpur, India** is an authentic record of our work carried out under the supervision of company representative Cognizant. We have not submitted this work elsewhere for any other degree or diploma.



RohitBehl
171018

This is to certify that the above statement made by the candidates is correct to the best of my knowledge.



Dr.Nafis Uddin Khan

Head of the Department/Project Coordinator

ACKNOWLEDGEMENT

I would like to thank Cognizant Academy team for guiding me throughout my internship and to acknowledge our project supervisor Sowndhariya Ravichandran, for her undying support, priceless motivation and proper guidance throughout the project duration. Moreover, I extend my sincere gratitude to all the other trainers, Behavioural Coaches and the Mentors of the Cognizant Technology Solutions for their contribution in the successful completion of this work.

I would also like to thank Tnp Cell of Jaypee University of Information and Technology due to which I got this opportunity to do internship with such a prestigious organization.

ABSTRACT

Functional testing is approach to test software and applications on the basis of their basics are functioning properly or not along we were taught other testing techniques as well like black box testing , white box testing ,etc. Major tool used in this internship was UFT along with other testing tools. Other technologies were also taught in this training. We were taught DBMS in very detail like Basics of DBMS ,advantages of DBMS over File system ,SQL queries ,all the normalization forms 1F,2F,3F,getting data from more than one table at once i.e. joins and subqueries. We were also taught VB script it's a very easy and case insensitive language developed by Microsoft and is great for new programmers. Then there were 3 projects mini project , main project and hackathon .In mini project we had to verify an unregistered user on an e-commerce website and then we had to print error message on the console screen. In major project we had to search hotels in Goa based on filter 4 star and above and amenities like Ac and parking and we had to print names of first 5 hotels on the console screen . Hackathon project is yet to start.

Keywords-SDLC,UFT, VB script, DBMS, Queries, Joins

LIST OF ACRONYMS AND ABBREVIATIONS

<i>Abbreviation</i>	<i>Meaning</i>
VBSCRIPT	Visual Basic Script
FUNC	Function
DBMS	Database management System
DISP	Display
UFT	Unified Functional Testing

CHAPTER 1

This project report is about my Internship at Cognizant. The domain that I got was Functional testing it had 5 modules and 3 projects.

Module 1-Test Case Writing

It was on basics of SDLC , testing and Test case writing.

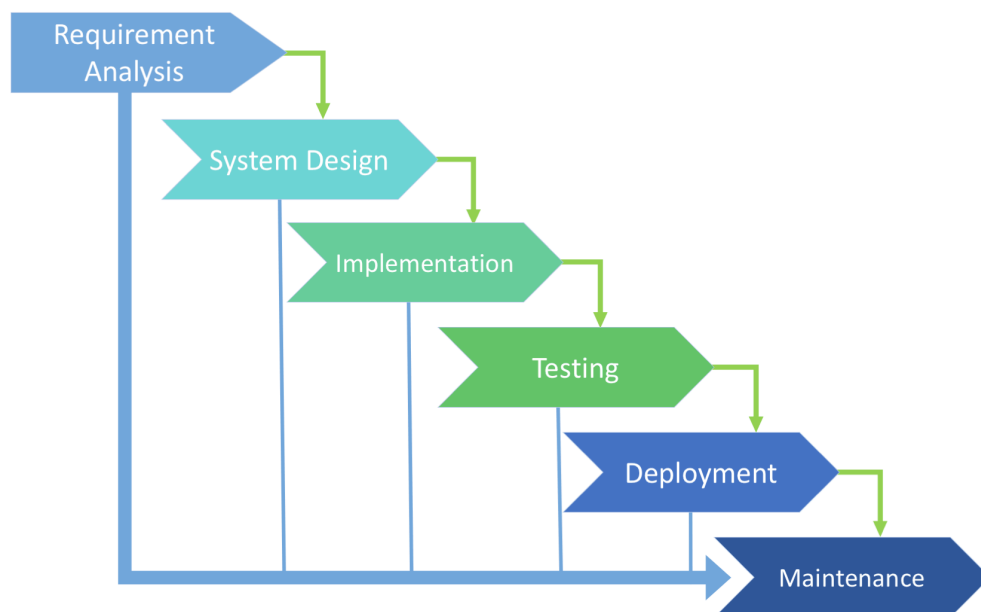
It also covered models such as iterative and incremental model of software development agile and scrum model of software development.

Models

There are two types of models

- 1) Sequential
- 2)Iterative/Incremental

- 1) Sequential – In Sequential model there are following steps



- 2) Iterative /Incremental- In this model work is divided into iterations .And incremented over short periods of time Eg Agile ,Scrum

What is testing?

Testing is basically ensuring the quality of software and ensure it does not fail when user uses it .It is of two types static testing ,dynamic testing.

Test case Writing

It is a professional way of writing if a software has worked properly or an error has occurred.

CHAPTER 2

Module -2 Datasource

In This Module we studied about differences in databases and file system, advantages of database. We studied about RDBMS and DBMS .We studied in details about SQL queries. We also studied about relations .

SQL

It stands for structured query language. It is used in relational database to interact with data base and perform operations.

DDL, DML and SELECT Statements

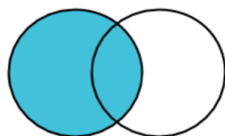
DDL- Means data definition language.. it consists of commands such as CREATE, DROP, ALTER, COMMENT, RENAME, TRUNCATE.

DML: Means Data Manipulation Language. It is used for data manipulation. It consists of commands such as INSERT, UPDATE, DELETE.

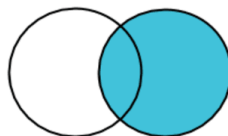
SELECT: It is a statement which is used to select the data from a database table. It is used to retrieve records from one or more table. It can be used with other commands such as WHERE, AND etc.

JOINS-

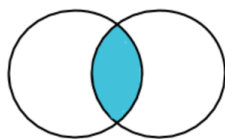
In joins are used to select data from more than one table at once They are of many types



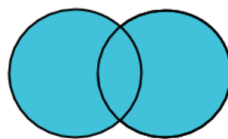
Left Join



Right Join



Inner Join



**Full Outer
Join**

Aggregate functions-These functions are used to perform sum ,min ,max on a given column etc .

SQL Functions

- Aggregate Functions
 - SQL aggregate functions return a single value, calculated from all the values in a column.

```
Tbl_stock Select SUM(int_price) from tbl_stock;
```

PK_int_id	Vchr_product	int_price
1	Pen	10
2	Book	15
3	Eraser	2
4	Pencil	6

→ Returns a single value

- Select AVG(int_price) from tbl_stock; // returns 8
- Select SUM(int_price) from tbl_stock; // returns 33
- Select MIN(int_price) from tbl_stock; // returns 2

CHAPTER 3

Module-3

This module was about vb script i.e. Visual basic scripting in this module we were taught about basics of vb script and FSO. Vb script is used in UFT so this was important module of our training.

Vb script is language developed by Microsoft .It is a light and easy scripting language so it is great option for new programmers .There is no need to install separate software to run scripts we can just run scripts on notepad by saving it by .vbs extension

There is a option of fso using it we can deal with files ,folders and drives using scripting
This module was about vb script i.e. Visual basic scripting in this module we were taught about basics of vb script and FSO. Vb script is used in UFT so this was important module of our training.

CHAPTER 4

Module-4

It was the on microfocus UFT ,it was the most important module of our training . It is a functional testing tool most widely used in industry . Earlier it was known as QTP.

About UFT

Microfocus Unified Functional Testing is basically an Automation Testing tool. As an Automation testing tool. This is going to help in automating our manual activities minimizing our efforts and time. It's a commercial tool. It's not an open-source tool like Selenium.

It enables us to automate the functional and regression testing. It also supports suit applications such as Windows, Web, Mobile, .Net, Java, Visual Basics and WPF. These can be selected as add-ins in the starting of the application.

It supports the VB Script Language.

History of UFT

Earlier UFT was called as QTP i.e. Quickest Professional. And it was firstly owned by the Mercury and then bought by the HP and then HP handed over the tool to the Microfocus.

Object RepositoryIt keeps record of all the objects it is like a database.It is like memory of uft it remembers properties each and every object in the repository

Chapter 5

HC Facets This is the fifth module of training and the duration of this module is two weeks .this module is yet to start

CHAPTER-6

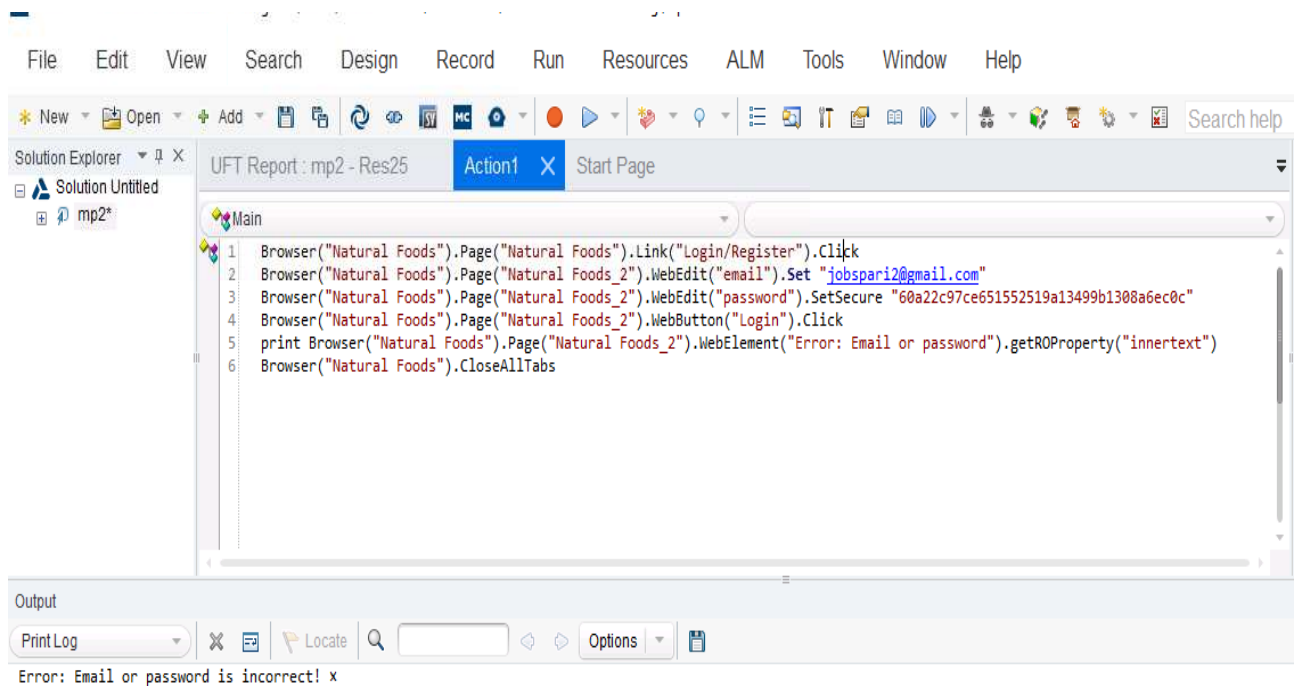
Mini project

The mini project I got was unregistered user verification on a e-commerce website .We had to verify if we login using given credentials and check if the error message is displayed or not and if it is displayed we had to print it on console screen.

Technologies used

UFT

Recording and object repository



The screenshot displays a UFT report for a test named "mp2 - Res25". The report shows a successful execution with the following statistics:

- Passed: 5 (100%)
- Warnings: 0 (0%)
- Failed: 0 (0%)

Test Data:

- Execution Time: 2021-05-22 02:46:07
- Duration: 00:00:23
- Tool Name: Micro Focus Unified Functional Testing 14.50

Errors list and Test flow:

- Test Iteration: Row 1
- Action1

Test Iteration Details:

- Test Iteration: Row 1
- Execution Time: 2021-05-22 02:46:08
- Duration: [Not fully visible]

Results-Project is ready to submit

Chapter 7

Major Project

In this project we have search hotels in Goa based on filter like price less than 10,000 ,4 star and above ,amenities like ac and parking and we had print names of first 5 hotels on the console screen.

Technologies used

UFT

Recording and object repository

For Loop

Descriptive Programming

The screenshot displays the UFT (Unified Functional Testing) interface. The top menu bar includes File, Edit, View, Search, Design, Record, Run, Resources, ALM, Tools, Window, and Help. The toolbar contains various icons for file operations, recording, and execution. The Solution Explorer on the left shows a project named 'Major_project' with an 'Action1' test.

The main editor window shows a test script for 'Action1' with the following code:

```
1 Browser("Hotel Booking Online |").Page("Book Flights, Hotels,").Link("Hotels").Click
2 Browser("Hotel Booking Online |").Page("Hotel Booking Online |").WebButton("Search").Click
3 Browser("Hotel Booking Online |").Page("Hotel List").WebEdit("WebEdit").Set "10000"
4 Browser("Hotel Booking Online |").Page("Hotel List").WebCheckBox("selectedRating").Set "ON"
5 Browser("Hotel Booking Online |").Page("Hotel List").WebCheckBox("selectedRating_2").Set "ON"
6 Browser("Hotel Booking Online |").Page("Hotel List").WebCheckBox("filterAmenity").Set "ON"
7 Browser("Hotel Booking Online |").Page("Hotel List").WebCheckBox("filterAmenity_2").Set "ON"
8 Set a= Description.Create()
9 a("class").value="hotelMme ng-binding"
10 Set r=Browser("Hotel Booking Online |").Page("Hotel List").ChildObjects(a)
11 For i = 0 To 4 Step 1
12     print r(i).getROProperty("text")
13 Next
```

The Output window at the bottom shows the results of the script execution:

```
ITC Grand Goa Resort And Spa
The Leela Goa
Taj Holiday Village Resort and Spa, Goa
Taj Fort Aguada Resort and Spa, Goa
The Crown Goa
```

UFT Report - Major_project - TempResults

Major_project - TempResults

Passed 8 (100%)
Warnings 0 (0%)
Failed 0 (0%)

Execution Time 2021-05-21 03:39:27 Duration 00:00:23 Tool Name Micro Focus Unified Functional Testing 14.50

Show More ▶

Errors list Test flow Search... Collapse All Expand All

- Test Iteration: Row 1
 - Action1
 - Hotels.Click
 - Search.Click

Test Iteration Details

Test Iteration
Iteration: Row 1

Execution Time
2021-05-21 03:39:28

Duration
00:00:22

Result-project ready to submit.

REFERENCES

1. Everything you need to learn about software testing(Udemy) by [Tarek Roshdy](#)
2. Understand SQL using the MySQL database. Learn Database Design and Data Analysis with Normalization and Relationships(Udemy) by [Jon Avis](#)
3. API Documentation1: Teaches technical writers how to document structured data. No programming experience required(Udemy) by [Peter Gruenbaum](#)
4. Learn the fundamentals of HP-UFT Functional Automation(Udemy) by [Coding Gears](#)

APPENDIX

The internship mainly focused on functional testing and various tools used in functional testing. I gained lot of knowledge about testing. I am ready know to work on project .it was a amazing experience with cognizant academy. First module was all about software development lifecycle , Bug ,Bug cycle ,testing and test cycle it was 1 week long module. second module of our training was data source in this we were taught about databases and file system ,RDBMS and queries ,sub queries aggregate functions etc

The third module of our training was vb script in this module we were taught in detail about scripting and fso used to deal with drives ,files and folders using scripting

The fourth Module was UFT it is a major module of our training in this we were taught about all the concepts of uft like recording ,object repository descriptive programming,datatable

After doing 2 projects I feel confident about uft.

PLAGIARISM REPORT

Rohit3

ORIGINALITY REPORT

19%

SIMILARITY INDEX

9%

INTERNET SOURCES

0%

PUBLICATIONS

17%

STUDENT PAPERS

PRIMARY SOURCES

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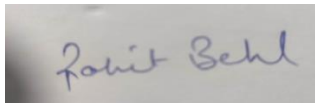
Project Report Undertaking

I Mr. /Ms. _____ RohitBehl _____ -Roll
No. _____ 171018 _____ Branch _____ E.C.E _____ is
doing my internship with _____ Cognizant _____ from
_____ 1/4/2021 _____ to _____ 11/6/2021 _____

As per procedure I have to submit my project report to the university related to my work that I have done during this internship.

I have compiled my project report. But due to COVID-19 situation my project mentor in the company is not able to sign my project report.

So I hereby declare that the project report is fully designed/developed by me and no part of the work is borrowed or purchased from any agency. And I'll produce a certificate/document of my internship completion with the company to TnP Cell whenever COVID-19 situation gets normal.



Signature _____

Name _____ RohitBehl _____

Roll No. _____ 171018 _____

Date _____ 18/05/2021 _____