Digital Aid
Test Plan

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1 Introduction

This document is an overview of defining the testing strategy for the Digital Aid web application. The Digital Aid project is made to make the emergency-aiding process easier and fairer. During the crisis of Bangladesh, most of the middle-class people and the poor ones left without earning. The project is made to provide humanitarian aid to needy people. The plan is to implement a system where each member of a household will be given an ID card for primary authentication. This way the donation can reach every household through a transparent process and also assure that no one receives the products repeatedly or products go to the wrong hands. The distribution process will be held by verified distributors and also can be monitored by the admin. In this document, various strategies & concepts of testing will be applied to make ensure the quality attributes of the Digital Aid web application.

1.1 Objectives

Digital Aid is an online platform that has been planned with the intention of making the process of distributing relief products efficient. During the crisis of Bangladesh, most of the the middle-class people and the poor ones left without earning. The government came forward with the intention of helping those who are suffering.

Phase 1 of the project will give an overview of the project. This will allow the test team to start understanding the test objectives & explore the tools that will be needed during the execution period. Phase 2 will give an overview of the execution of the tests & tools or software that was used during the execution.

1.2 Team Members

Table 1: Team Members

Number	Name	Role
1	abc	Project Manager
2	xyz	Quality Assurance Manager
3	Manan Ahmed Broti	Test Lead & development Manager

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2   Assumptions / Risks

2.1   Assumptions

In this project, certain assumptions will be made:

- Proper requirements analysis will be done by business analyst team.

- The testing team will get daily updates from the development team.

- Proper resource allocation will be given by the company to the testing team.

- Testing team will be properly trained.

- Testing team will be given enough time for testing.

- Server will be maintain properly.

2.2   Risks

In this test plan there are some risks to the project with some features on the testing process.

Table 2: Risk Table

Risk Table				
#	Risk	Probability	Impact	RMMM
1	Requirements Inflation	80%	Medium	Proper Requirements analysis should be done
2	Late delivery of the software	80%	Medium	Software should be send for testing as fast as possible
3	Funding will be lost	40%	High	Proper initial plan for budget
4	Project contain with bug	80%	Medium	Bug should be checked again & again
5	Number of tests performed will be reduced	40%	Medium	Staff should be trained by expert
6	Lack of resources	50%	High	Resources should be available
7	Delays in training	60%	Low	Training should be properly done
8	System will be down for several times	80%	High	Server upping issues can be solved by the server admin
9	Lower quality delivery product	50%	High	Product should be properly tested before delivery

3   Test Approch

The Digital Aid web application is using an agile approach, with weekly iterations. At the end of each week the requirements identified for that iteration will be delivered to the team and will be tested.

New Research & Exploratory testing will play a large part of the testing as the team is new to using this type of tools and will be learning as they go. Tests for planned functionality will be created and added to Digital Aid as we get iterations of the product.

3.1   Testing Tools

Table 3: Testing Tools

Process	Tool
Automation Test Creation	TestProject, Katalon Sudio
Test Case Execution	TestProject, Katalon Sudio
Manual Test Case Creation	Microsoft Excel
Defect Management	Microsoft Word
Load Testing	JMeter
Test Reporting	Latex overleaf

3.2   Manual Testing

Manual testing is done throughout the entire application. The test cases are documented in Microsoft Excel. The test cases are given below:

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Project Name	Digital Aid
Module Name	Login
Created By	Manan Ahmed Broti
Creation Date	MM-DD-YYYY
Reviewed By	Test Lead / Peers
Reviewed Date	11/20/2022

Test Senario ID	Test Senario Description	Test Case ID	Test Case Description	Test Steps	Preconditions	Test Data	Post conditions	Expected Result	Actual Result	Status
TS_DA_001	Verify the login Functionality of Digital Aid website	TC_DA_Login_001	Enter a valid username & valid password	1. Enter valid username 2. Enter valid Password 3. Click on Login Button	Valid URL Test data	username: mnn password: 1234#1234	user should be able to see the homepage	successful login	successful login	pass
		TC_DA_Login_002	Enter a valid username & invalid password	1. Enter valid username 2. Enter invalid Password 3. Click on Login Button	Valid URL Test data	username: mnn password: 12341234	alert box "login failed"	an alert box to show a message.	an alert box to show a message.	failed
		TC_DA_Login_003	Enter a invalid username & valid password	1. Enter invalid username 2. Enter valid Password 3. Click on Login Button	Valid URL Test data	username: man password: 1234#1234	alert box "login failed"	an alert box to show a message.	an alert box to show a message.	failed
		TC_DA_Login_04	Enter a invalid username & invalid password	1. Enter invalid username 2. Enter invalid Password 3. Click on Login Button	Valid URL Test data	username: man password: 12341234	alert box "login failed"	an alert box to show a message.	an alert box to show a message.	failed

Project Name	Digital Aid
Module Name	Admin Dashboard
Created By	Manan Ahmed Broti
Creation Date	MM-DD-YYYY
Reviewed By	Test Lead / Peers
Reviewed Date	11/21/2022

Test Senario ID	Test Senario Description	Test Case ID	Test Case Description	Test Steps	Preconditions	Test Data	Post conditions	Expected Result	Actual Result	Status
TS_DA_Admin_001	Verify the admin dashboard buttons & functionalities	TC_DA_Admin_001	click on the My Profile button from the admin dashboard sidebar	1. click on the Adminastrator drop down option 2. click My Profile button	logged in as an admin		user should be able to see his profile information page	redirected to user profile information page	redirected to user profile information page	pass
TS_DA_Admin_002	Verify the admin dashboard buttons & functionalities	TC_DA_Admin_002	click on the Settings button from the admin dashboard sidebar	1. click on the Adminastrator drop down option 2. click Settings button	logged in as an admin		user should be able to see the settings page	redirected to settings page	redirected to settings page	pass
TS_DA_Admin_003	Verify the admin dashboard buttons & functionalities	TC_DA_Admin_003	click on the Logout button from the admin dashboard sidebar	1. click on the Adminastrator drop down option 2. click logout button	logged in as an admin		user should be logged out & see the login page	redirected to website login page	redirected to website login page	pass
TS_DA_Admin_004	Verify the admin dashboard buttons & functionalities	TC_DA_Admin_004	click on the Admin List button from the admin dashboard sidebar	1. click on the All Users drop down option 2. click Admin List button	logged in as an admin		user should be able to see Admin List page	redirected to Admin List page	redirected to Admin List page	pass
TS_DA_Admin_005	Verify the admin dashboard buttons & functionalities	TC_DA_Admin_005	click on the Distributor List button from the admin dashboard sidebar	1. click on the All Users drop down option 2. click Distributor List button	logged in as an admin		user should be able to see Distributor List page	redirected to Distributor List page	redirected to Distributor List page	pass
TS_DA_Admin_006	Verify the admin dashboard buttons & functionalities	TC_DA_Admin_006	click on the Consumer List button from the admin dashboard sidebar	1. click on the All Users drop down option 2. click Consumer List button	logged in as an admin		user should be able to see Consumer List page	redirected to Consumer List page	redirected to Consumer List page	pass

TS_DA_Admin_007	Verify the admin dashboard buttons & functionalities	TC_DA_Admin_007	click on the Unverified Users button from the admin dashboard sidebar	1. click on the All Users drop down option 2. click Unverified Users button	logged in as an admin	user should be able to see Unverified Users page	redirected to Unverified Users page	redirected to Unverified Users page	pass
TS_DA_Admin_008	Verify the admin dashboard buttons & functionalities	TC_DA_Admin_008	click on the Inventory button from the admin dashboard sidebar	click the inventory button	logged in as an admin	user should be able to see inventory page	redirected to inventory page	redirected to inventory page	pass
TS_DA_Admin_009	Verify the admin dashboard buttons & functionalities	TC_DA_Admin_009	click on the announcement button from the admin dashboard sidebar	click the announcement button	logged in as an admin	user should be able to see announcement page	redirected to announcement page	redirected to announcemen t page	pass
TS_DA_Admin_010	Verify the admin dashboard buttons & functionalities	TC_DA_Admin_010	click on the bell icon from the admin dashboard navbar	click bell icon	logged in as an admin	user should be able to see all the pending task	all the pending task apears	all the pending task apears	pass
TS_DA_Admin_011	Verify the admin dashboard buttons & functionalities	TC_DA_Admin_011	click on the envalope icon from the admin dashboard navbar	click envalope icon	logged in as an admin	user should be able to see all the unseen message	all the unseen message apears	all the unseen message apears	pass
TS_DA_Admin_012	Verify the admin dashboard buttons & functionalities	TC_DA_Admin_012	click on the user picture from the admin dashboard navbar	click user picture	logged in as an admin	user should be able to see all the user options	username & logout button apears	username & logout button apears	pass

3.3 Test Automation

Test automation is a part of the testing process for the Digital Aid web application. As our project is a web-based application for test automation the current approach is to use TestProject & Katalon studio for UI testing. The steps include:

- Create & Record test cases in automation testing tools.

- Create job/test suit to organize test cases.

- Reuse test cases and implement the nested tests.

- Create data & use data driven testing.

- Use custom paths, parameters, verifications, validations & conditions, so that any changes made inside the module won't affect the expected results.

3.3.1 Functional Testing / Login Module

This test is done in Katalon Studio To check the login module of the Digital Aid web application. Input variables & validation is also implemented for effective testing.

Login

Execution Environment

Host name	Ahmed - the-x
Local OS	Windows 10 64bit
Katalon version	8.5.2.208
Browser	Chrome 108.0.0.0

Summary

ID	Test Suites/Login
Description	

Total	1		
Passed	1	Failed	0
Error	0	Incomplete	0
Skipped	0		
Start	2022-12-12 14:35:45	End	2022-12-12 14:36:03
Elapsed	17.945s		

#	ID	Description	Status
1	Test Cases/Login Test		PASSED

Figure 1: login module Test in katalon studio

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### 3.3.2 Smoke Testing On User Functionalities

This test is created to test all the user functionalities on the admin dashboard. Validation is also implemented in this test case.

Test Report

⊗ TestProject

Execution ID: 2hSdfo7GbEKmLO7MDowazg
Platform: Web
Test Name: My Profile Module
Project: Digital Aid
Ran By: Manan Ahmed Broti
Agent: testing agent On Windows
Started At: November 18, 2022 01:40:13 (UTC)
Duration: 00:00:37.343
Execution Method: Serial

Overall Summary

100%
Passed
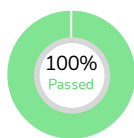
■ 100% Passed   ■ 0% Failed   ■ 0% Suspended   ■ 0% Skipped

Tests Results

	Test	Application	Duration	Result
100%	My Profile Module	digital aid	00:00:28.015	Passed

Name: Chrome
Version: 107.0.5304.107

Figure 2: Admin dashboard automation test report

3.3.3 User Module Test / User Profile Functionality

This test is created to test my profile module of a user. This test case is parameterized. Input, output variables & condition applied to compare the test result with expected results.

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Test Report

TestProject

Execution ID: 2hSdfo7GbEKmLO7MDowazg
Platform: Web
Test Name: My Profile Module
Project: Digital Aid
Ran By: Manan Ahmed Broti
Agent: testing agent On Windows
Started At: November 18, 2022 01:40:13 (UTC)
Duration: 00:00:37.343
Execution Method: Serial

Overall Summary

100% Passed   ■ 100% Passed   ■ 0% Failed   ■ 0% Suspended   ■ 0% Skipped

Tests Results

	Test	Application	Duration	Result
100%	My Profile Module	digital aid	00:00:28.015	Passed

Name: Chrome
Version:
107.0.5304.107

Figure 3: My profile module test on TestProject

3.3.4   Data Driven Functionality Test / Application Themes Test

This data-driven test case in TestProject is created to test the theme functionality of the web application. The parameter is given through a CSV file to compare the given RGB value with the Navbar & sidebar color value. 4 valid input & 1 invalid input is given to check the efficiency.

color_button	password	RGB_Color	username
Yellow	1234#1234	(251, 173, 76)	mnn
Coffiee	1234#1234	(47, 24, 16)	mnn
Skyblue	1234#1234	(135, 206, 235)	mnn
White	1234#1234	(125, 89, 98)	mnn
Sky Blue	1234#1234	(135, 206, 235)	mnn

Figure 4: CSV Table

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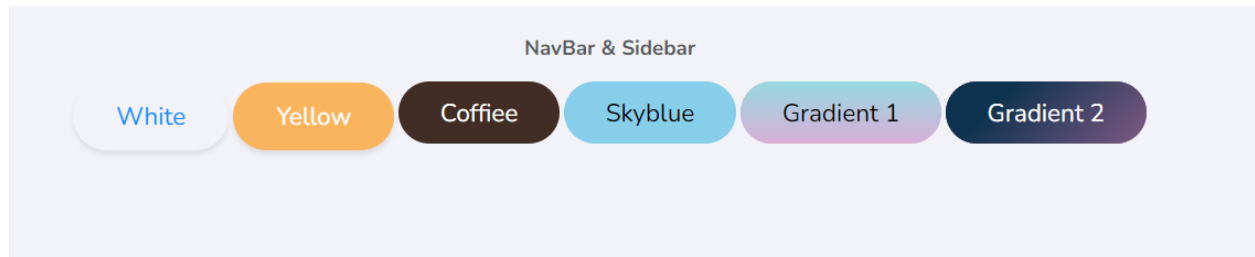
Figure 5: Themes module

Test Report

Execution ID:	PKPB03nKrEaKelENTC7Wmw
Platform:	Web
Test Name:	Check system themes
Project:	Digital Aid
Ran By:	Manan Ahmed Broti
Agent:	testing agent On Windows
Started At:	November 18, 2022 01:29:42 (UTC)
Duration:	00:02:47.652
Execution Method:	Serial

Overall Summary

80% Passed   20% Failed   0% Suspended   0% Skipped
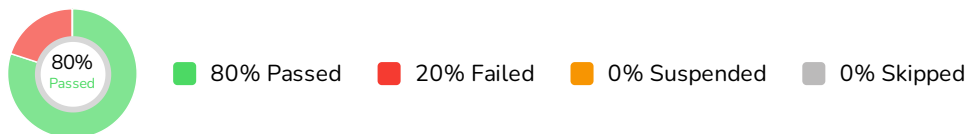
Tests Results

	Test	Iteration	Application	Duration	Result
80%	Check system themes	1	digital aid	00:01:00.822	Passed
Name: Chrome **Version:** 107.0.5304.107	Check system themes	2	digital aid	00:00:14.934	Passed
	Check system themes	3	digital aid	00:00:09.671	Passed
	Check system themes	4	digital aid	00:00:09.885	Passed
	Check system themes	5	digital aid	00:01:01.764	Failed

Figure 6: My profile module test on TestProject

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3.3.5 Parameterize Functionality Test / User Verification Test

This test case is created in TestProject to check the functionality to verify a user. To check the efficiency variables & conditions are also implemented.
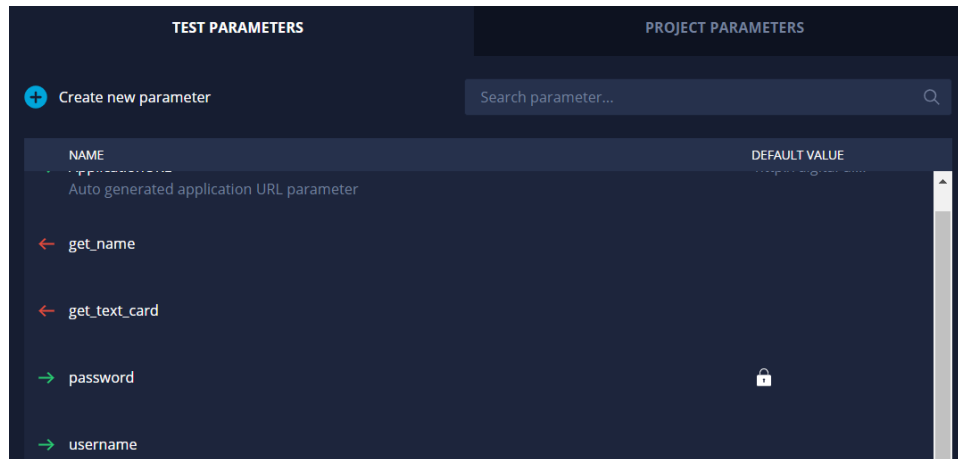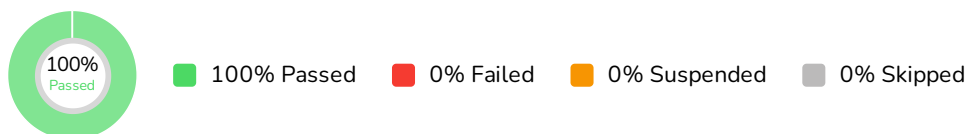

Figure 7: Input & Output Parameter implementation

Figure 8: User Verification test on TestProject

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3.3.6 Functional Testing On Application Searchbar / Checking An Existing User

This test case is created in TestProject to check an existing user using the consumer list search bar after he's verified. This test case can also validate the previously verify user test case.

Figure 9: Consumer search bar
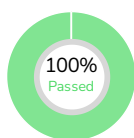
Figure 10: checking an existing user test

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3.3.7 Load Testing

Since the website is on live to a subdomain, A load testing is executed using JMeter as an experiment on the first four-page to measure the performance. The users was set to 1000, ramp-up period was set to 1 second & loop was set to 1. The report shows a positive result on the experimental test.
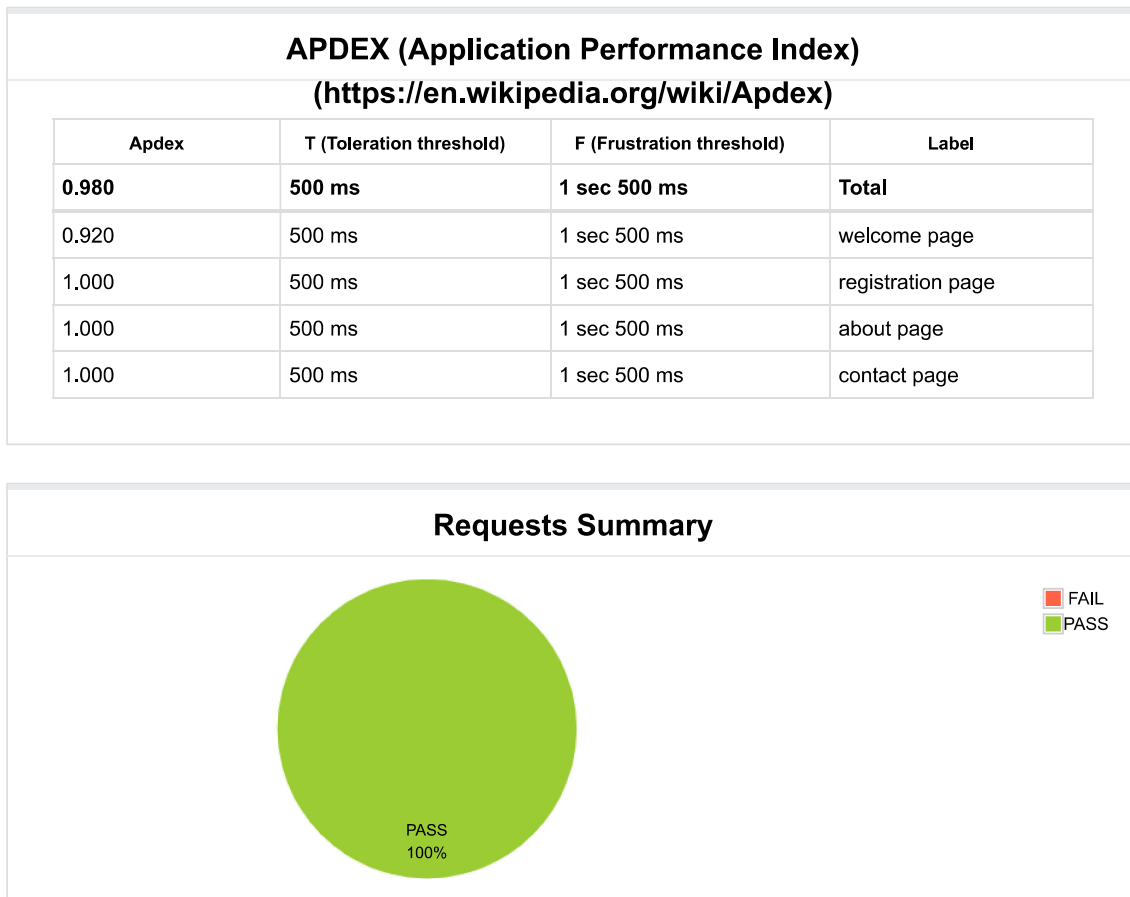
APDEX (Application Performance Index) (https://en.wikipedia.org/wiki/Apdex)			
Apdex	**T (Toleration threshold)**	**F (Frustration threshold)**	**Label**
0.980	**500 ms**	**1 sec 500 ms**	**Total**
0.920	500 ms	1 sec 500 ms	welcome page
1.000	500 ms	1 sec 500 ms	registration page
1.000	500 ms	1 sec 500 ms	about page
1.000	500 ms	1 sec 500 ms	contact page

Requests Summary

FAIL
PASS

PASS
100%

Figure 11: Jmeter testing summary

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3.4 Bug Report

During the testing process of the Digital Aid web application, the test team could manage to find some bugs. The reports are documented in Microsoft Word.

Bug report for Registration Desktop View (1920px).

1. **Issue ID**: issue_001
   Defect Description: Remember me checkbox doesn't work.
   Reproducing Step:
   - Open URL "http://digital-aid.infinityfreeapp.com/"
   - Mark the "Remember Me" checkbox checked.
   - Login to the system with a valid username & password.
   - Now again open URL "http://digital-aid.infinityfreeapp.com/" in a new tab.

   Environment: Google Chrome

   Module: Header

   Severity: Critical

   Screenshot: https://drive.google.com/file/d/1tM58V_GNFyUm7tBA12k0CF9srpiUdOIe/view

   Responsible QA: Manan Ahmed Broti

2. **Issue ID**: issue_002
   Defect Description: Remember me checkbox doesn't work.
   Reproducing Step:
   - Open URL "http://digital-aid.infinityfreeapp.com/"
   - Mark the "Remember Me" checkbox checked.
   - Login to the system with a valid username & password.
   - Now again open URL "http://digital-aid.infinityfreeapp.com/" in a new tab.

   Environment: Google Chrome

   Module: Header

   Severity: Critical

   Screenshot: https://drive.google.com/file/d/1tM58V_GNFyUm7tBA12k0CF9srpiUdOIe/view

   Responsible QA: Manan Ahmed Broti

Figure 12: Bug report in Microsoft Word

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4 Test Environment

4.1 Setting Up Application

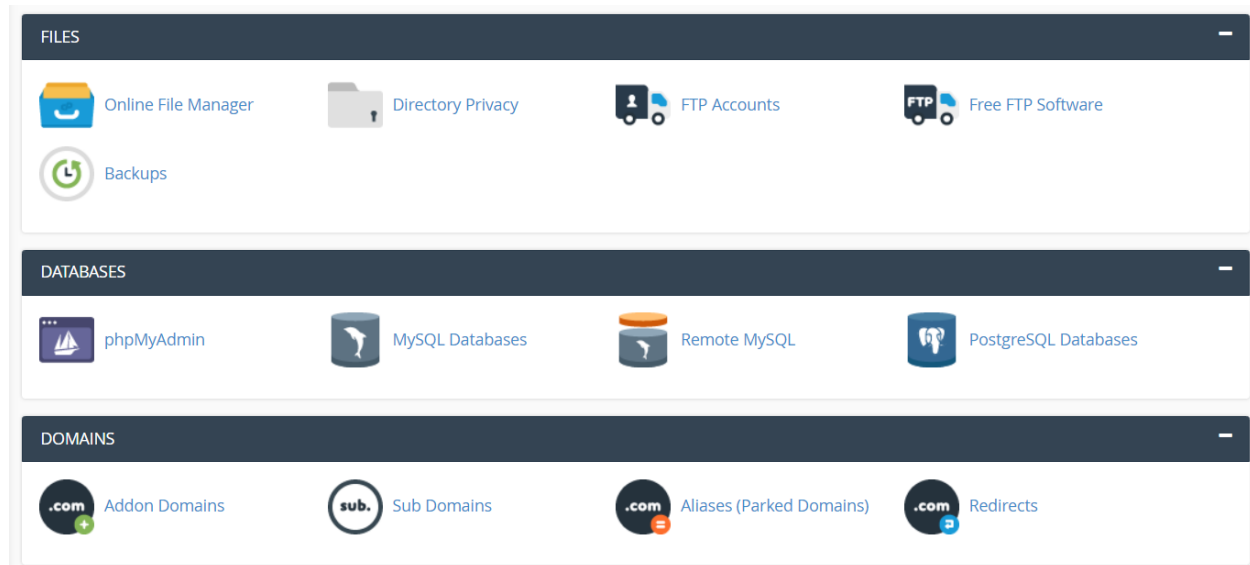For proper testing purposes the application has been set up to a subdomain with a CPanel & database access.

Figure 13: C Panel of Digital Aid

4.2 Hardware

Since Digital Aid is a web-based application any modern days computer with an internet connection will be enough for testing.

4.3 Software

For the purpose of reporting bugs & manual test cases Microsoft Word & Microsoft Excel have been used.

4.4 Tools

To set the environment for automation testing & test execution, automation testing tools such as TestProject, Katalon Studio and JMeter are used. Those tests are executed with a browser environment of Chrome & Microsoft Edge

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5   Milestones / Deliverables

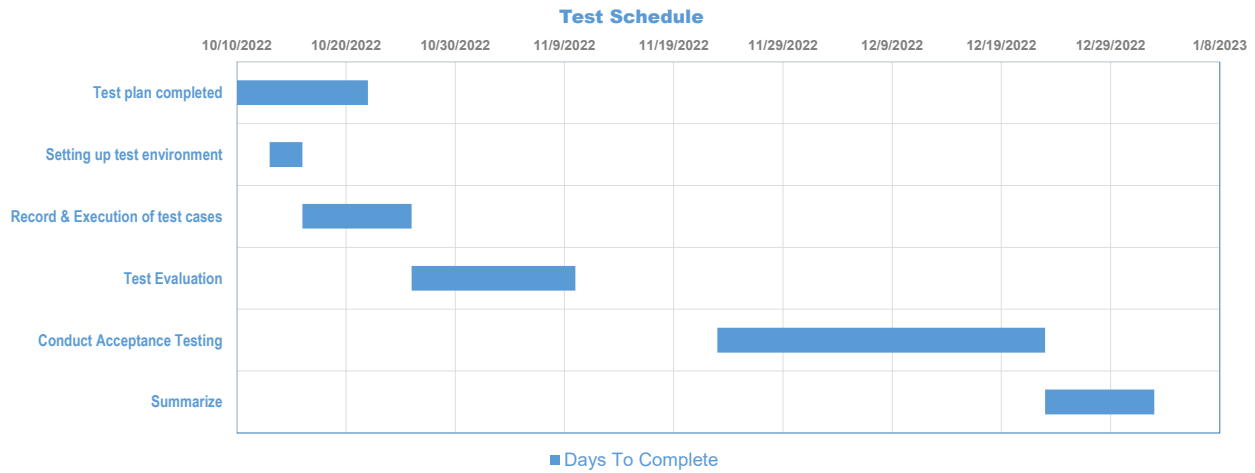## 5.1   Test Schedule

Figure 14: Testing schedule

6   Summary

The tests show a positive overview & indicate the software is ready to be live on the server. As testing is necessary throughout the software development life cycle, more testing & updates are suggested & will be conducted throughout the lifecycle of Digital Aid. The latest updates on test plan documentation, detailed test cases & detailed automation reports are given & will be updated at the end of the document in the Appendix section.

7 Appendix

[1] Digital Aid live website, *digital-aid.infinityfreeapp.com/*

[3] Digital Aid Test Plan Latest Update, *https://tinyurl.com/52ktww3p*

[3] Digital Aid TestProject Test Report, *tinyurl.com/yrectxw5*

[4] Digital Aid test cases & bug reports, *tinyurl.com/3dyhckpa*

[5] Digital Aid TestProject Report, *https://tinyurl.com/yrectxw5*

[6] Digital Aid Automation Test Execution Videos, *https://tinyurl.com/2p8dur74*

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References

[1] A. Kumar and S. Ayyappan, "Food security and public distribution system in india," *Agricultural Research*, vol. 3, pp. 271–277, 09 2014.

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