PROJECT STATEMENT

Web testing, or website testing is checking your web application or website for potential bugs before it's made live and is accessible to the general public. Web Testing checks for functionality, usability, security, compatibility, performance of the web application or website. For testing Web applications,

We have chosen one educational and another is a company website.
1. MNIT Jaipur(http://mnit.ac.in/)
2. National Fertilizers Limited(https://www.nationalfertilizers.com/)

The following testing will be performed on the above two mentioned web applications:

1. **Functional Testing:** In functional Testing, we Test all links in your web pages are working correctly and make sure there are no broken links. Links to be checked will include -
   ● Outgoing links
   ● Internal links
   ● Anchor Links
   ● Mail to Links

We Test Forms are working as expected or not. This will include-

   ● Scripting checks on the form that are working as expected. For example- if a user does not fill a mandatory field in a form an error message is shown.
   ● Check default values are being populated
   ● Once submitted, the data in the forms are submitted to a live database or is linked to a working email address.

2. **User Interface Testing:** In this testing, we will test the navigation bar and different internal and external links in the website along with forms. We will test Menus, buttons or links to different pages on your site that should be easily visible and consistent on all web pages.

3. **Compatibility testing:**

   Browser Compatibility Test: The same website in different browsers will display differently. So, we will test if the web application is being displayed correctly across browsers and authentication is working fine.

4. **Performance Testing:** In this testing, we will test whether the website responds rapidly, amount of workload handled at a time and website is stable in case of varying workloads or not.

5. **Security Testing:** Testing Activities will include-

- Test unauthorized access to secure pages should not be permitted
- Restricted files should not be downloadable without appropriate access
- Check sessions are automatically killed after prolonged user inactivity.

1. MNIT Jaipur

Home Page
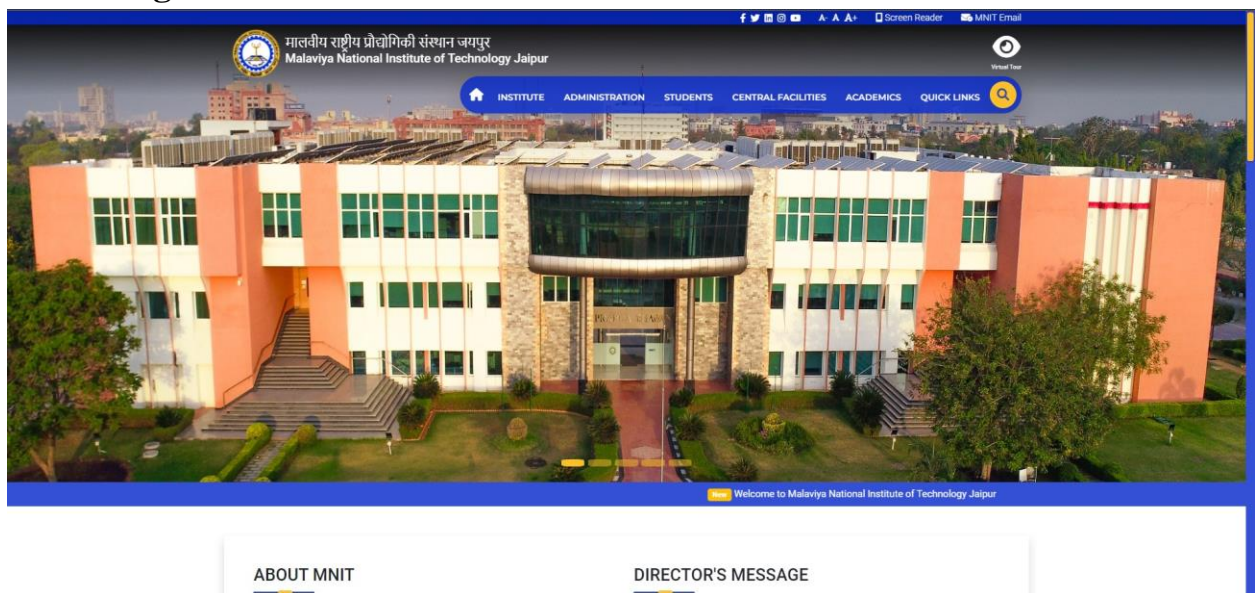
link - www.mnit.ac.in

a. Functional Testing

Test cases of login into website

Test Cases	Description	Input	Expected Output
TC1	Login into website	Username and Password	If the information entered is valid the user is login successfully else error message will be displayed
TC2	Reset Fields	-	Reset the login form by deleting all details in every field

Test cases by entering input into login form:

Test Cases	Description	Input Data	Expected Output
TC1	User Login	2K21/CSE/16 2K21CSEMNIT	Login Failed:: Invalid Username or password
TC2		CSE@2K21@16 MNIT2021cse	Login Failed:: Invalid Username or password

TC3		CSE_2k21_21 CSE2021@MNIT	Login Failed:: Invalid Username or password
TC4		CSE@08_2021 2021@CSE_08	Login Failed:: Invalid Username or password
TC5	Reset Fields	-	Reset the login form by deleting all details in every field

Login: https://intranet.mnit.ac.in/

TC1 to TC4

b. Interface Testing

   i.   Navigation Testing(Test Cases)

Test Cases	Description	Input	Expected Output
TC1	Checking of all internal and external Links of each page	Link1=Home Link2=About us Link3=Administration Link4=Central Facilities Link5=Departments Link6=Photo Gallery Link7=Contact us Link8=Student Registration Link9=Latest News Link10=Students Corner Link11=Training and Placement Link12=Academics	Appropriate web page is opened with respect to each link.
TC2	Click on all links on each web page to test the appearance of content on each web page.	Link1=Home Link2=About us Link3=Administration Link4=Central Facilities Link5=Departments Link6=Photo Gallery Link7=Contact us Link8=Student Registration Link9=Latest News Link10=Students Corner Link11=Training and Placement Link12=Academics	Appropriate horizontal and vertical scroll bars are present and the user can view the page contents properly
TC3	Click on the 'back' link present on each page.	-	The appropriate page is displayed.

Navigation Bar and Other Links:
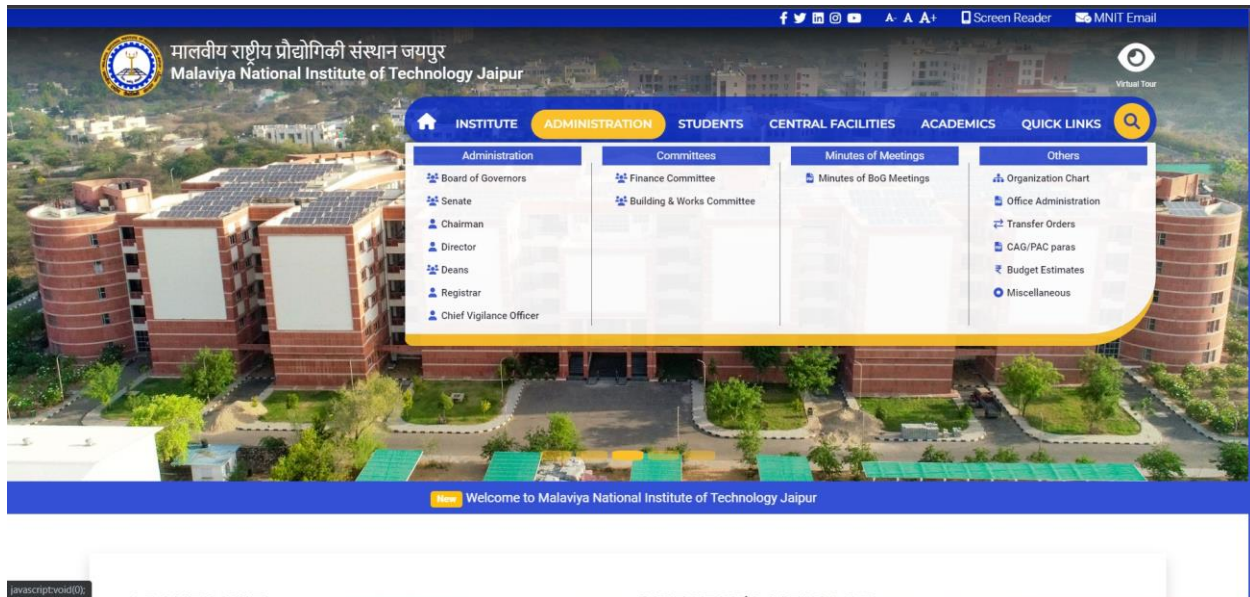
ii. User Interface Testing Checklist

S.No.	Description	Yes/No /Na	Remarks
1	Are the links meaningful?	Yes	
2	Are there any broken links?	Yes	Home -> CVC Portal ->Internal Server Error
3	Do all internal links work correctly?	No	Home -> CVC Portal ->Internal Server Error
4	Do all external links work properly?	Yes	
5	Are all links to external sites in the website tested?	Yes	
6	Are images correctly hyperlinked?	Yes	
7	Can the user navigate using text only?	No	
8	Does every hyperlink exist on the site map?	Yes	
9	Does the link bring the user to the correct web page?	Yes	
Tables			
10	Are the columns wide enough or the text wrapsaround the rows?	Yes	
11	Are the row and columns headings of tablesappropriate?	Yes	
Frames			
12	Is every frame associated with a title?	Yes	
13	Can the user resize the frame?	No	
14	Is the frame size appropriate?	Yes	
15	Does the horizontal and vertical scrollbar appearwherever required?	Yes	
16	Does any frame handling mechanism exist forbrowsers that do not support frames?	No	

	Forms		
17	Are keyboard shortcuts provided for movementbetween different fields of forms?	No	Keyboard shortcuts not working.
18	Does the tabbing feature traverse the appropriatefields in the correct sequence?	Yes	
19	Are the mandatory fields marked correctly?	Yes	
20	Are descriptive labels for all fields provided?	Yes	
21	Is information formatted, wherever required	Yes	
22	Are error messages meaningful and appropriate?	Yes	
23	Does the size of text fields give enough room for theuser to type?	Yes	
24	Are fields used appropriately?	Yes	
25	Is any information asked more than once in the form?Is the user prevented from entering the same datamultiple times?	No	
26	Does the form include a 'reset' button to clear itscontents?	No	
	Text fields, Buttons, List boxes, Check boxes		
27	Do the text fields accept invalid characters andspecial characters?	No	
28	Can text be selected using shift + arrow key?	Yes	
29	Can the user add text in the combo boxes?	Yes	
30	Do the required commands and options exist in eachmenu?	Yes	
31	Are abbreviations used in list boxes/buttons?	No	
32	Are the label names meaningful?	Yes	
33	Are mouse actions consistent across web pages?	Yes	
34	Is red color used to highlight active items?	No	

35	Is all the data inside the list/combo box listed inchronological order?	No	
36	Are validation checks for text fields present?	Yes	
37	Does the back navigation button work as required?	Yes	
38	Do the text fields accept maximum permissible data?	Yes	
39	Can an alphanumeric character be entered in numericfields?	No	
40	Are there any spelling or grammatical mistakes incaptions or labels?	No	

Broken Links
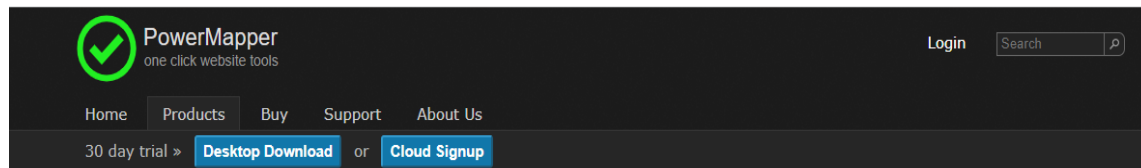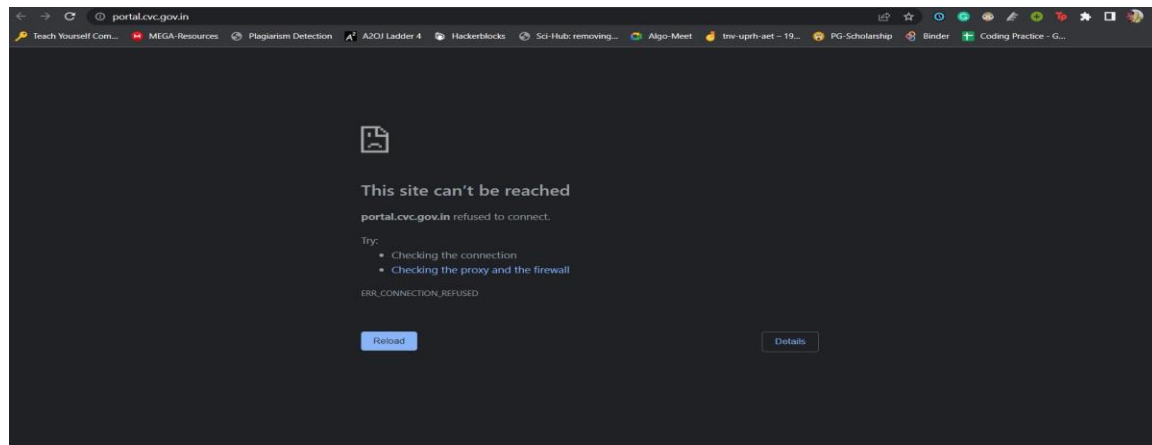
c. Compatibility Testing

i. Browser Compatibility Testing:

Platform	Microsoft Edge	Firefox	Opera	Chrome
Windows	Yes	Yes	Yes	Yes
Android	Yes	Yes	Yes	Yes
Ios	Yes	Yes	Yes	Yes

PowerMapper
one click website tools

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Home   Products   Buy   Support   About Us

30 day trial »   Desktop Download   or   Cloud Signup

Summary   Issues   Pages   https://mnit.ac.in/

Dashboard   Site Map   What was Tested

Category	Issues	Pages	Benchmark
Overall Quality		8 pages with quality issues	⊗ 21% have issues, worse than average
Errors		0 pages with broken links or other errors	⊘ 0% have issues, better than average
Accessibility		1 pages with accessibility problems	⊘ 3% have issues, better than average
Compatibility		7 pages with browser specific issues	⊗ 18% have issues, worse than average
Search		1 pages with search engine issues	⊘ 3% have issues, better than average
Standards		3 pages have W3C standards issues	⊘ 8% have issues, better than average
Usability		5 pages with usability issues	⊘ 13% have issues, better than average
Totals		40 pages and files checked	

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Summary   Issues   Pages   https://mnit.ac.in/

Errors   Accessibility   Compatibility   Search   Standards   Usability

This tab shows pages that exhibit browser-specific behavior, or trigger browser bugs.

Browser	IE	Edge	Firefox	Safari	Opera	Chrome	iOS		Android
Version	11	100	99	15	85	100	≤ 14	15	100
Critical Issues	⊘	⊘	⊘	⊘	⊘	⊘	⊘	⊘	⊘
Major Issues	◐	⊘	⊘	⊘	⊘	⊘	⊘	⊘	⊘
Minor Issues	◑	◑	◑	◑	◑	◑	◑	◑	◑

Key

● Missing content or functionality

◐ Major layout or performance problems

◑ Minor layout or performance problems

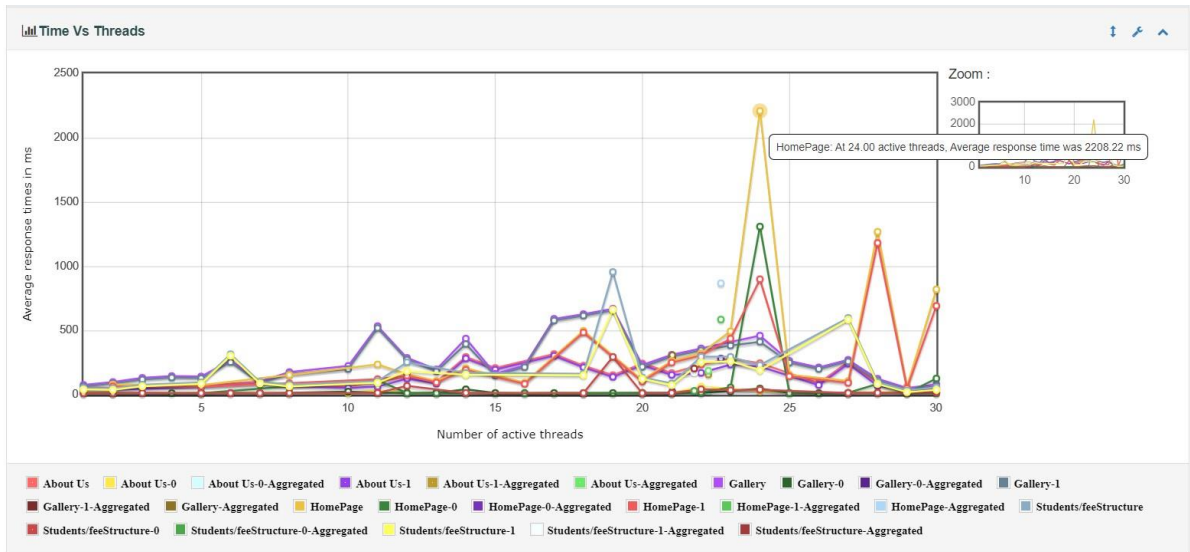### d. Performance Testing

Statistics

Requests		Executions			Response Times (ms)							Throughput	Network (KB/sec)	
Label	#Samples	FAIL	Error %	Average	Min	Max	Median	90th pct	95th pct	99th pct		Transactions/s	Received	Sent
Total	**1800**	**0**	**0.00%**	**260.56**	**10**	**5863**	**90.00**	**461.40**	**898.50**	**3856.79**		**167.93**	**9491.23**	**29.14**
About Us	150	0	0.00%	186.27	28	1790	110.50	337.70	576.90	1661.48		16.73	984.37	4.44
About Us-0	150	0	0.00%	29.29	12	300	14.00	37.80	146.60	297.96		16.81	9.85	2.26
About Us-1	150	0	0.00%	156.77	15	1777	90.00	287.60	420.60	1644.91		16.76	976.09	2.19
Gallery	150	0	0.00%	307.42	47	2220	226.00	585.70	784.65	1756.41		16.76	2220.93	4.45
Gallery-0	150	0	0.00%	22.53	11	282	14.00	31.00	54.80	276.90		16.88	9.89	2.27
Gallery-1	150	0	0.00%	284.75	33	2207	205.50	565.20	736.00	1742.90		16.78	2214.57	2.20
HomePage	150	0	0.00%	867.44	52	5863	211.50	3866.90	3992.30	5085.76		14.24	1199.83	3.25
HomePage-0	150	0	0.00%	281.31	10	3633	15.00	630.60	2551.70	3615.66		14.31	7.85	1.66
HomePage-1	150	0	0.00%	584.89	39	5738	173.50	2529.60	2954.60	4667.00		14.55	1218.14	1.63
Students/feeStructure	150	0	0.00%	203.11	34	1246	130.00	417.70	571.70	1233.76		16.78	1065.02	4.72
Students/feeStructure-0	150	0	0.00%	29.63	11	298	14.00	36.00	148.20	295.96		16.85	10.14	2.40
Students/feeStructure-1	150	0	0.00%	173.29	20	1215	109.50	404.30	513.15	1211.43		16.80	1056.47	2.33

Load Test Graph

Average Throughput: 30 hits/sec

Time V/S Thread graph

e. **Security Testing:**

Web Server Security Test

HTTP RESPONSE

200 OK

HTTP VERSIONS

HTTP/1.1

NPN

N/A

ALPN

N/A

CONTENT ENCODING

None

SERVER SIGNATURE

Apache/2.2.14 Ubuntu

WAF

No WAF detected

LOCATION

National Internet Backbone

HTTP METHODS ENABLED

GET POST HEAD OPTIONS DELETE PUT TRACK CUSTOM

DIRECTORY LISTING ENABLED

The website has at least one folder with enabled directory listing: http://mnit.ac.in/css/ .

GDPR Compliance Test

If the website processes or stores any PII of EU residents, the following requirements of EU GDPR may apply:

PRIVACY POLICY

Privacy Policy was found on the website.
Good configuration

WEBSITE SECURITY

Website CMS and its components could not have been reliably fingerprinted.
Ensure that they are up2date.
Information

TLS ENCRYPTION

HTTPS encryption is missing or has known security weaknesses or misconfigurations.
Misconfiguration or weakness

COOKIE PROTECTION

No cookies with personal or tracking information seem to be sent.
Information

COOKIE DISCLAIMER

No third-party cookies or cookies with tracking information seem to be sent.
Information

PCI DSS Compliance Test

If the website falls into a CDE (Cardholder Data Environment) scope, the following Requirements of PCI DSS may apply:

REQUIREMENT 6.2

Website CMS could not have been reliably fingerprinted. Make sure they are up2date.

`Information`

REQUIREMENT 6.5

No publicly known vulnerabilities seem to be present on the website.

`Good configuration`

REQUIREMENT 6.6

No WAF was detected on the website. Implement a WAF to protect the website against common web attacks.

`Misconfiguration or weakness`

HTTP Headers Security Test

Some HTTP headers related to security and privacy are missing or misconfigured.

`Misconfiguration or weakness`

MISSING REQUIRED HTTP HEADERS

`X-Content-Type-Options`

MISSING OPTIONAL HTTP HEADERS

`Access-Control-Allow-Origin` `Expect-CT` `Permissions-Policy`

SERVER

The web server discloses its version, potentially facilitating further attacks against it.

`Misconfiguration or weakness`

Raw HTTP Header

Server: Apache/2.2.14 (Ubuntu)

X-POWERED-BY

The web server discloses its version, potentially facilitating further attacks against it.

`Misconfiguration or weakness`

Raw HTTP Header

X-Powered-By: PHP/5.3.2-1ubuntu4.10

Content Security Policy Test

CONTENT-SECURITY-POLICY

The header was not sent by the server.   Misconfiguration or weakness

f. Usability Testing:

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Errors   Accessibility   Compatibility   Search   Standards   Usability

This tab shows general usability issues, indicating navigation problems for all users.

This tab is available in SortSite Professional, SortSite Developer and OnDemand, but not in SortSite Standard edition.

⊗   **Usability.gov Guidelines - Some pages violate these guidelines.**

⊗   **W3C Best Practices - Some pages violate these guidelines.**

⊘   Readability - No issues found.