IT313-Software Engineering

Non Functional Testing

Guest house Booking System

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Non-Functional Testing

Non-functional testing for the Guesthouse Booking and Management Project focuses on evaluating aspects of the system that are not directly related to specific functionalities but are critical for its overall performance, reliability, and user experience.
This testing approach checks parameters such as system responsiveness, scalability, security measures, usability, and resilience under varied conditions. By examining these non-functional attributes, the testing process aims to fortify the system's robustness and optimise its capabilities to meet or exceed user expectations.

Non-Functional Requirements-

1.Performance-Objective of system should be to evaluate responsiveness, throughput, and resource utilisation under various loads.

2.Security-It should identify vulnerabilities and assess data protection mechanisms to fortify system security.

3.Usability-System should provide an intuitive and user-friendly interface for users to navigate and perform tasks easily.

4.Scalability-The system should scale efficiently to accommodate increasing guesthouse operations or user base.

5.Localisation-The system should support multiple languages and regional requirements to cater to diverse user needs.

6.Data Privacy- The system should safeguard guest data, ensuring it is used only for intended purposes and not shared without consent.

Objectives-

1.Non-Functional Testing enhances the configuration, execution, management, and app/website monitoring.

2.It enhances the usability, effectiveness, maintainability, and portability of the app/website.

3. It also helps in improving the user experience.

Results of time testing-

We have used a stopwatch to calculate the response time of different functions in the website like login,add item,delete item,view booking history etc. This is because any website needs to be user friendly and should have as least response time as possible.

We have done the time testing in booking as well as management website and recorded our observations in the end.

1.Booking Website

Functions	Response Time(sec)	Average Time(sec)
Login	0.31	0.31
	0.33	
	0.29	
Logout	0.15	0.156
	0.13	
	0.19	
View hotels	1.52	1.36
	1.25	
	1.33	
View rooms	0.78	0.72
	0.65	
	0.75	
Book a room	0.78	0.73

	0.82	
	0.61	
Payment	0.34	0.283
	0.21	
	0.3	
Download Invoice	0.13	0.18
	0.19	
	0.22	

2. Management Website

Functions	Response Time(sec)	Average Time(sec)
Login	0.36	0.353
	0.31	
	0.39	
Logout	0.21	0.19
	0.17	
	0.19	
Add inventory item	0.46	0.416
	0.38	
	0.41	

Delete inventory item	0.25	0.196
	0.19	
	0.15	
View items	0.15	0.173
	0.2	
	0.17	
View Staff	0.32	0.3
	0.31	
	0.27	
Edit staff details	0.26	0.263
	0.23	
	0.3	
View reserved rooms	0.32	0.323
	0.28	
	0.37	
Offline Booking	0.4	0.366
	0.34	
	0.36	

Observations-

According to the data shown above ,we can draw the observation that the pages with images take the highest time as compared to other pages.This is because the page loads in an average time but the photos take a bit of time to load and appear.

The book room functionality also takes a bit more time than usual because while booking , a request is sent to the management side where it checks rooms available at that particular date and responds back to the booking website.

The average time on the Booking side is 0.534 sec and the Management side is 0.286 sec.

According to article in Sematext-

"A web response time ranging between 200 milliseconds and 1 second is considered acceptable as users still likely won't notice the delay. For better user satisfaction, you should take the time to optimise it. Any response time over 1 second is problematic and needs to be fixed."

Our website is still not completely optimised as it takes a bit more time while loading the pages with photos inserted and booking a room page sends requests to other websites to respond accordingly but the other pages are loaded within a short interval of time which helps in making the website user friendly.

References-

1.https://sematext.com/